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HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 30 March 1979

ARMORED AND MECHANIZED DIVISIONS OPERATIONS

FM 71-100, 29 September 1978, is changed as follows:

1. New or changed material is indicated by a ★.
2. Remove old pages and insert new pages as indicated below:

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4-17 and 4-18	4-17 and 4-18
4-35 and 4-36	4-35 and 4-36
5-23 and 5-24	5-23 and 5-24
6-1 and 6-2	6-1 and 6-2
6-5 and 6-6	6-5 and 6-6
6-11 and 6-12	6-11 and 6-12
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Field Manual

No. 71-100

*FM 71-100

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 29 September 1978

ARMORED AND MECHANIZED DIVISION OPERATIONS

PREFACE

THE DIVISION is the largest United States Army organization that trains and fights as a team. A division is organized with varying numbers and types of combat, combat support, and combat service support units.

A division may be armored, mechanized, infantry, airborne, or air assault. It is a self-sustaining force capable of independent operations, even for long periods of time, when properly reinforced. A division usually fights as part of a larger force, most often a corps. Divisions, however, are the backbone of the Army and the land battle is won or lost by their battalions.

This manual describes **how** armored and mechanized infantry divisions are organized and **how** they fight. Because the division's tank and mechanized infantry battalions are grouped under brigades, how brigades fight is also described in the detail necessary to understand division operations.

How nuclear and chemical munitions can best be used to support divisional operations is described where appropriate. While no treaty or international agreement prohibits use of nuclear weapons, authority to use them is retained by the national command authority. With respect to chemical weapons, it is the policy of the United States not to use lethal or incapacitating weapons first. Therefore, these weapons can only be employed when authorized to do so by the national command authority and by the appropriate field commander.

How infantry, airborne, and air assault divisions fight is described in FM 71-101, *Infantry, Airborne, and Air Assault Operations*. How the corps fights is described in FM 100-15, *Corps Operations*.

***This publication, together with FM 71-101 (to be published), supersedes FM 61-100, 15 November 1968.**

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THE DIVISION

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CHAPTER 1

The Division

The mission of the United States Army is to win the land battle.

To do this, today's Army is organized into divisions. Prior to **World War I** the regiment was the largest permanent tactical and administrative command. During World War I infantry divisions were formed by combining these regiments into brigades subordinate to the division. Each division had two infantry brigades; each brigade had two regiments and was supported by field artillery and service units.

In **World War II,** armored, cavalry, airborne, and motorized divisions were formed in addition to infantry divisions. Divisions were streamlined by eliminating the brigade headquarters. This meant the division commander directly commanded three infantry regiments; these were supported by four field artillery battalions, engineer, and service units. Regiments were still responsible for logistics and administration. In armored divisions, regiments were eventually replaced by three combat commands; each had attached tank and armored infantry battalions. Combat commands were control headquarters only—they controlled tactical operations; the logistics and administration chains extended direct from division to battalions. Battalions cross-attached companies to form task forces. Cavalry (all mechanized) provided reconnaissance and security and was grouped as the situation demanded. Combat commands were supported by armored field artillery battalions and engineer units—normally companies.

The **Korean War** was fought primarily by infantry divisions organized generally as they had been in World War II.

In the **late 1950s,** the Army prepared for tactical nuclear war in Europe by reorganizing into five battle groups in each infantry division. These battle groups were, in effect, large battalions, each with five rifle companies, a combat support company, and appropriate field artillery and service support. They were self-sustaining and could be employed singly or in combinations. Armored division organization remained largely unchanged.

The "pentomic" division—the battle group organization—was abandoned in the **early 1960s.** At that time the combat command concept traditional to armored division organization was adopted for all divisions. Combat commands were called brigades;

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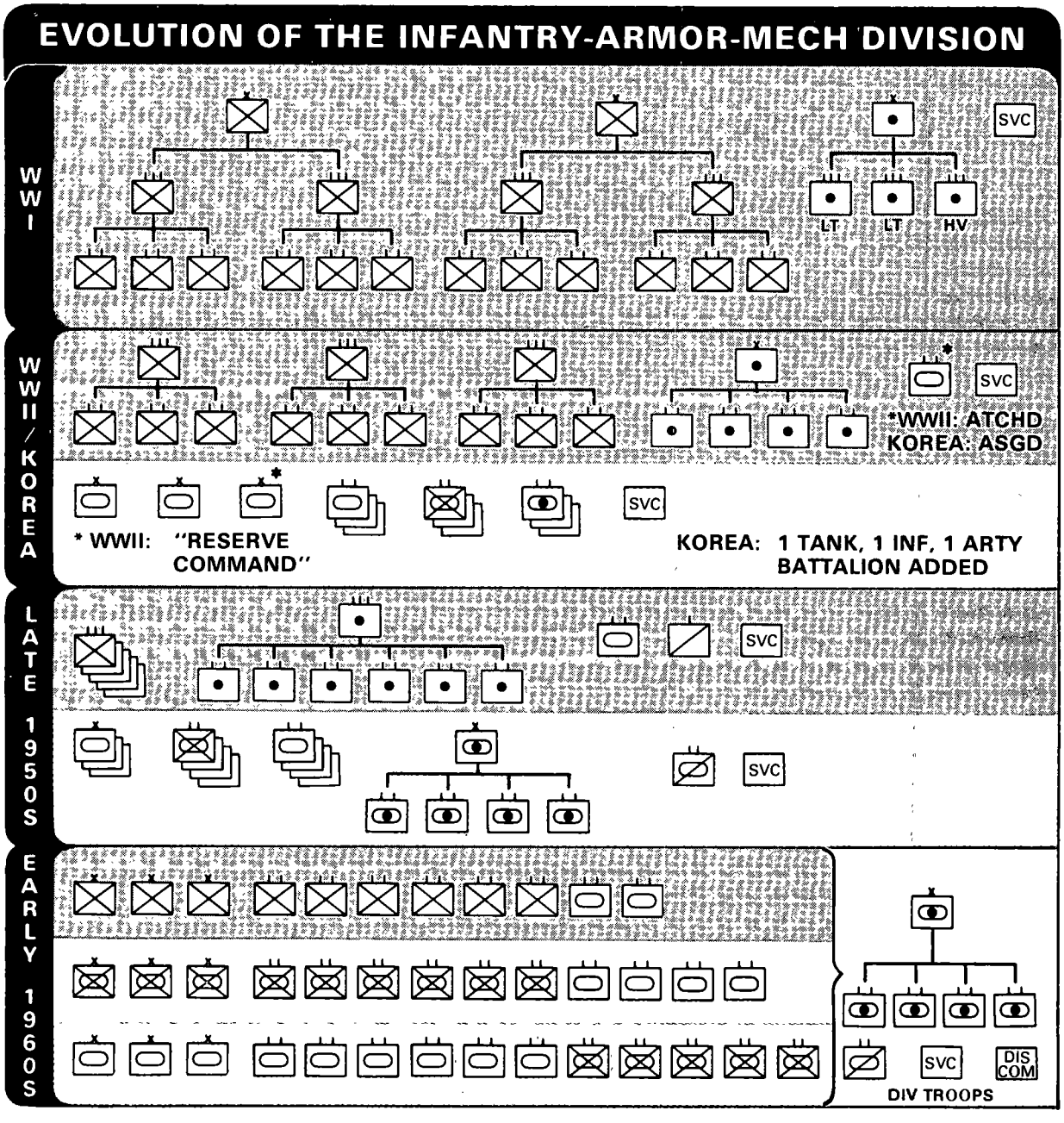
each division had three brigades into which various numbers of battalions could be grouped. All divisions were organized similarly except that some were heavy (armored and mechanized) and some were light (infantry and airborne), depending on the types of battalions assigned.

A new division (the airmobile division), now called an air assault division, was added to the Army. Differences between divisions were in types of battalions assigned and in the composition of the division base. The war in Vietnam was fought primarily with air assault and infantry divisions.

Since the **Vietnam War,** armored and mechanized divisions have been provided additional antitank weapons—antitank guided missiles (ATGMs).



Today US armored and mechanized divisions stationed in Europe have ten times the capability in terms of firepower and mobility of infantry divisions deployed to Europe in the early 1950s, and about five times the firepower of armored divisions of that same era. New equipment, which will be introduced over the next five to seven years, will again dramatically increase divisional capabilities.

Long-range trends for US Army armored and mechanized divisions, and similar divisions in armies of major foreign powers, are generally towards better survivability, more lethal firepower, and improved mobility in some combination. **For a discussion of trends in combat capability, see Chapter 2 of FM 100-5, Operations.**

ORGANIZATION OF ARMORED AND MECHANIZED DIVISIONS

In terms of their organization, US Army armored and mechanized divisions are essentially alike. Each has, or some will have:

- A divisional headquarters and headquarters company, and brigade headquarters companies to provide command control (The number of brigade headquarters companies may vary from time to time depending on operational requirements, but is normally between two and five.);
- Tank and mechanized battalions to destroy the enemy and to seize and hold terrain;
- An armored cavalry squadron for reconnaissance, security, and economy of force operations;
- A division artillery consisting of medium and heavy field artillery battalions to provide fire support, and a headquarters and headquarters battery for command control;
- An air defense artillery battalion to help protect the division from air attack;
- An engineer battalion for combat engineer support;
- A signal battalion to provide communication between divisional command control installations;
- A combat electronic warfare and intelligence battalion to assist in collecting, processing, and disseminating intelligence, and to support electronic warfare operations;
- A nuclear, biological, and chemical defense company to provide for decontamination and to reconnoiter areas believed to be contaminated;
- A military police company to provide traffic control, security of enemy prisoners of war, and area security in the division rear;
- An aviation company to provide command control and utility helicopters; and
- A division support command with several combat service support units.

In Europe, two attack helicopter companies are also found in each division. In the near future, a divisional aviation battalion will be added to US armored and mechanized divisions. It will be organized with two attack helicopter companies, a combat support aviation company which provides limited airlift to the division, and a combat support company which provides command control helicopters.

Field and air defense artillery, attack helicopter, and engineer units may be attached to or placed in support of the division by corps.

The difference between armored and mechanized divisions is in the mix of tank and mechanized battalions in each. An armored division has more tank than mechanized battalions; while in a mechanized division, the opposite is the case. The differences are slight however—both divisions have large amounts of mobile, armor-protected firepower. For this reason they are called heavy divisions.

Because of their *mobile, survivable firepower,* heavy divisions are normally employed where battles are fought over wide areas against an enemy with similar capabilities.

During offensive operations, heavy divisions seek to rapidly concentrate overwhelming combat power against the enemy, break through enemy defenses, then strike deep to destroy enemy field and air defense artillery command control and service support.

Heavy divisions *can defend on wide frontages* using mobility to rapidly concentrate against an enemy main attack, while economizing forces in less heavily attacked areas.

The heavy division *operates best in fairly open terrain* where it can move quickly and use its long-range direct fire weapons to best advantage. *The heavy division is not designed for operations in jungles, dense forests, or mountains.* Infantry is most often used there.

Large cities, towns, and built-up areas *restrict operations* of the heavy division; although in Europe, for example, it will be necessary for these divisions to operate in built-up areas from time to time.

WINNING THE BATTLE

In order for the division to win in battle, several things must be done; the most important things are:

- **See the battlefield.** To attack, it is necessary to know how the enemy *intends to defend* and the *strength, disposition,* and *location* of enemy units. To defend, it is necessary to know where the enemy's main effort is being made and in what strength.
- **Concentrate forces.** Sufficient forces must be concentrated at the right place and time. In the defense, forces are concentrated against the enemy's main effort to destroy his attacking force or force him to withdraw. In the attack, forces are concentrated against an enemy, seeking to break through his defenses quickly and strike rapidly into his rear.
- **Direct the battle.** The battle must be controlled and directed so that maximum effect of the division's combat power can be brought to bear on the enemy at the *right time and place.*
- **Maximize weapon capability.** The battle must be fought using *cover, concealment, suppression, and combined arms teamwork* to maximize the effectiveness of the division's weapons, while at the same time minimizing their vulnerability to enemy weapons.

COMMAND IN BATTLE: GENERALS, COLONELS, AND CAPTAINS

GENERALS

It is the **division commander** who must set in motion tank and mechanized battalions toward the right place on the battlefield. He establishes intelligence-collection requirements to provide him information as to where the right place is and what might be the essential timing. He sets priorities for fire support, air defense, engineer support, and electronic warfare operations. He sets priorities for combat

service support (ammunition, fuel, and maintenance) which must also be concentrated to support the battle. *He organizes the division for battle.*

To assist him, the division commander has two **assistant division commanders.** While they may be employed as the division commander directs, it is normal to find one assistant assigned to operational matters to include training, and the other assigned to oversee support operations. The commander also has a division staff consisting of a *personnel officer* (G1), *intelligence officer* (G2), *operations officer* (G3), and a *logistics officer* (G4). These four staff members and those who work for them are the division general staff. Frequently a civic action or a *civil affairs officer* (G5) will be present. The division commander also has a special staff—its technical specialties include supply, maintenance, communications, electronics, transportation, engineer, and aviation. It most often operates under the supervision of the general staff. In some cases unit commanders in the division also function as special staff officers—engineer and signal battalion commanders are examples. The purpose of the staff is to assist the commander by providing him information, analyses, and estimates which can help in making decisions; then to prepare and disseminate the plans and orders necessary to transmit decisions to subordinate commands. When the situation permits, the commander transmits his decisions to his subordinate commanders *face-to-face.* The staff then assists subordinate commands on the execution of their orders.

THE DIVISION STAFF AND SPECIAL STAFF PROVIDE THE DIVISION COMMANDER INFORMATION, ANALYSES, AND APPRAISALS FOR DECISIONMAKING

COLONELS

Colonels—commanding brigades and **lieutenant colonels** commanding battalions—conduct and direct the battle. They put the combined arms team together. Once the division commander has set in motion the necessary concentration of weapons and supporting fires, brigade and battalion commanders must organize their forces and conduct the battle.

The **brigade commander** organizes tank battalions and mechanized battalions into cross-reinforced tank and mechanized battalion task forces. The brigade commander sets priorities for field artillery fires available to the brigade and for work by engineer units supporting the brigade. The brigade commander then maneuvers his forces to bring fires to bear on the enemy, when and where they are needed. He also has a staff to assist him.

The **battalion task force commander** organizes and maneuvers forces and fires to destroy the enemy on his part of the battlefield. It is the battalion commander who integrates fire and maneuver. By cross-attaching platoons, he organizes his tank and mechanized companies into cross-reinforced company teams, when it is necessary to do so. Like divisional and brigade commanders, the battalion commander has a staff to assist him.

CAPTAINS

Captains fight the battle. Small unit leaders must fully understand the capabilities and limitations of their weapon systems, train their soldiers to use them properly, and make full use of cover, concealment, suppression, and teamwork. *Ultimately the difference between victory and defeat depends on the proficiency of crews or individuals who fire the weapons of the division, and the skill of the captains, lieutenants, and sergeants who lead them.*

It is to be expected in the opening stages of the next war that US Army forces deployed in the area or first committed to the fight will be *outnumbered.* History tells us that a small force can defeat a larger force, but there is a fine line between victory and defeat. A *well-trained, highly motivated, disciplined division, led by confident professionals who skillfully execute the tactics and techniques* described on the pages to follow *can destroy or defeat the enemy, even though it is outnumbered.*

The chapters following describe how armored and mechanized divisions organize for combat, how they attack and defend, and how they provide for combat service support and how combat operations are controlled.

CHAPTER 2

The Enemy in Modern Battle

Threat forces facing the NATO allies, and major threat forces in other important areas of the world possess large manpower and military resources.

For the most part, potential enemies of the United States are organized, equipped, trained, and tactically schooled in Soviet military concepts. Fundamental to these concepts are several cardinal ideas. These are:

MASS—Victory is most easily, and in the end, economically achieved by overwhelming the enemy with numbers.

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MOMENTUM—Numbers combined with speed destroy an enemy quickly; and although losses may be high at the outset, quick collapse of the enemy makes the mass-speed combination more economical in the long run.

CONTINUOUS COMBAT—By applying *mass* continuously—night, day, bad weather with limited visibility—one achieves and sustains momentum, thus overwhelming enemy forces and destroying their ability to defend as well as their will to do so.

OFFENSE—Threat forces defend primarily to permit an attack to go in somewhere else, to regroup forces, or as an interlude between offensive operations. As a general rule, however, it is necessary to take combat initiative to achieve decisive results.

In world areas of most concern to the United States, Threat forces are primarily armored. They feature a comprehensive combined arms team of tanks, armored infantry fighting vehicles, antitank guided missiles (ATGMs), self-propelled field and air defense artillery, tactical fighter bomber aircraft and armed helicopters, self-propelled rapid launch tactical bridging, and supporting mobile equipment.

Threat forces train extensively for operations on a battlefield where nuclear, biological, and chemical (NBC) weapons are used. They carry a complete array of individual and vehicular NBC protective gear. Most Threat armored vehicles provide pressurized protection for crews.

The Threat electronic warfare capability is substantial and impressive. It includes radio intercept, direction finding, jamming, and deception. Threat forces use electronic warfare together with fire support to deny the enemy use of his electronic systems and to protect Threat electronic systems. These operations are called radio-electronic combat.

HIGH DENSITY OF WEAPON SYSTEMS ON THE NEXT BATTLEFIELD WILL SEVERELY HAMPER COMMAND CONTROL

All this spells out that the battlefield will be dense with high quality complementary weapons of all types, and there will be an intense fight in which large numbers on both sides are likely to be destroyed very quickly. The air over the battlefield will be dense with air defense and artillery fires, meaning successful employment of fighter bombers and attack helicopters will be highly dependent on successful counterfire—suppression of enemy air defenses. Command control will be difficult both because of the density of systems and intensity of the fight, and also because of extensive electronic warfare aimed at disrupting it. Mobility will be difficult to achieve due to the presence of considerable countermobility factors. These will include natural and man-created obstacles, destroyed equipment and units, artificially created smoke and the natural smoke and dust of battle, and disrupted command control systems.

This is the arena in which the division and its commander will fight. *The rest of this chapter will describe:*

- **Threat soldiers and leaders,**
- **Threat tactics,**
- **Threat organization for combat, and**
- **Threat weapon systems** *from the perspective of the division commander.*

THREAT SOLDIERS AND THEIR LEADERS

The Threat soldier is first a field soldier. He spends most of each training day learning to live and fight in the field. For him, theory is

no substitute for practice in field living and operations.

Most Threat soldiers are highly motivated, sometimes through fear of their leaders or political indoctrination. They believe in the rightness of their system—they know no other. *Threat soldiers in battle are tough, callous, and good fighters.* They are indifferent to hardship, especially when they believe they are righteously defending their country against aggression.

Threat leaders demand instant and unquestioned obedience from their subordinates. Regimental and battalion commanders do not allow subordinate leaders to exercise initiative. So, an unexpected situation on the battlefield can place the small unit leader at a momentary loss. If unforeseen successes occur, for example, small unit commanders will likely await new orders or respond in a stereotyped fashion rather than use initiative to take immediate advantage of the situation.

THREAT TACTICS

In the offense, following closely the concepts of mass, momentum, and continuous operations, Threat tactics focus clearly on concentration of numerically superior forces and firepower for a combination of frontal attacks, enveloping maneuvers, holding attacks, and deep thrusts into the enemy rear by armor-heavy combined arms forces. Threat commanders believe they must build up an offensive momentum which will allow their forces to advance 30 to 50 kilometers a day during non-nuclear operations, and 60 to 100 kilometers a day during nuclear operations. *Momentum of the attack is sustained by echelonment of forces in depth so that succeeding echelons can pass through or around the first echelon, join the fight with fresh forces, and press on to achieve and maintain continuous operations.*

The defense is seen as a temporary condition. Threat forces defend while seeking an opportunity to attack, or as an economy of force measure to support an attack elsewhere.

Combined arms operations and units are important considerations in Threat tactics. *Motorized rifle troops and tanks consistently operate together;* ground operations are always supported by extensively planned artillery fires. Units are organized so as to adapt easily to changing combat requirements by attachment of large numbers of supporting units.

Echelonment of forces is an important Threat concept during both offensive and defensive operations. Each commander to battalion level determines the number of echelons required for an operation. It is normal to have two. Commanders are permitted to retain reserves. These may consist of motorized rifle or tank units, artillery, antitank, engineer, chemical, and other units as required. The size of the reserve varies, but is normally small. *The reserve is the commander's contingency force.* He uses it to replace destroyed units, repel counterattacks, provide local security against airborne/heliborne and partisan operations, and it acts as an exploitation force to influence the outcome of the operation.

Threat forces that possess nuclear and chemical weapons plan for employment in both offensive and defensive operations as the basis of all fire planning. Nuclear and chemical fires may be combined and coordinated with non-nuclear/chemical fires and air attacks, and exploited rapidly by ground and air assault forces. Nuclear and chemical weapons may be employed together or separately. Each may be employed with biological agents. When nuclear and chemical weapons are used, Threat force tactics are similar to those employed on the non-nuclear battlefield.

In the attack the enemy attempts to overwhelm the defense with the weight and speed of his attack, both day and night. The attack is conducted on a broad front, with formations moving on independent axes, accepting the risk of open flanks. To minimize this danger, the enemy may use nuclear or chemical weapons to neutralize ground dominating his axis of advance and to protect his flanks.

To avoid presenting nuclear targets, the enemy may concentrate forces for only short periods of time. He may close with the defender either to destroy him, or to insure that the defender cannot use nuclear weapons without endangering his own forces. Primary nuclear targets are nuclear and chemical weapons delivery systems, command control systems, logistics systems, and large concentrations of troops.

In the defense, Threat forces fight on the nuclear battlefield as they do on the conventional battlefield. The only difference is that defending forces may be more widely dispersed. Primary nuclear targets are the same as when they are attacking.

If the enemy is likely to use nuclear, chemical, or biological weapons, it is necessary to prescribe a mission oriented protective posture (MOPP) for the division. When this is the case, the commander specifies the degree of protection for divisional troops. An example of MOPP is having all soldiers wear protective clothing and masks, based on the threat, mission, work rate, and temperature. **For further discussion of a MOPP, see FM 21-40, NBC Defense.**

Representative features of Threat tactics that are emphasized again and again in his literature, and that the division commander can therefore expect to encounter frequently, include the following:

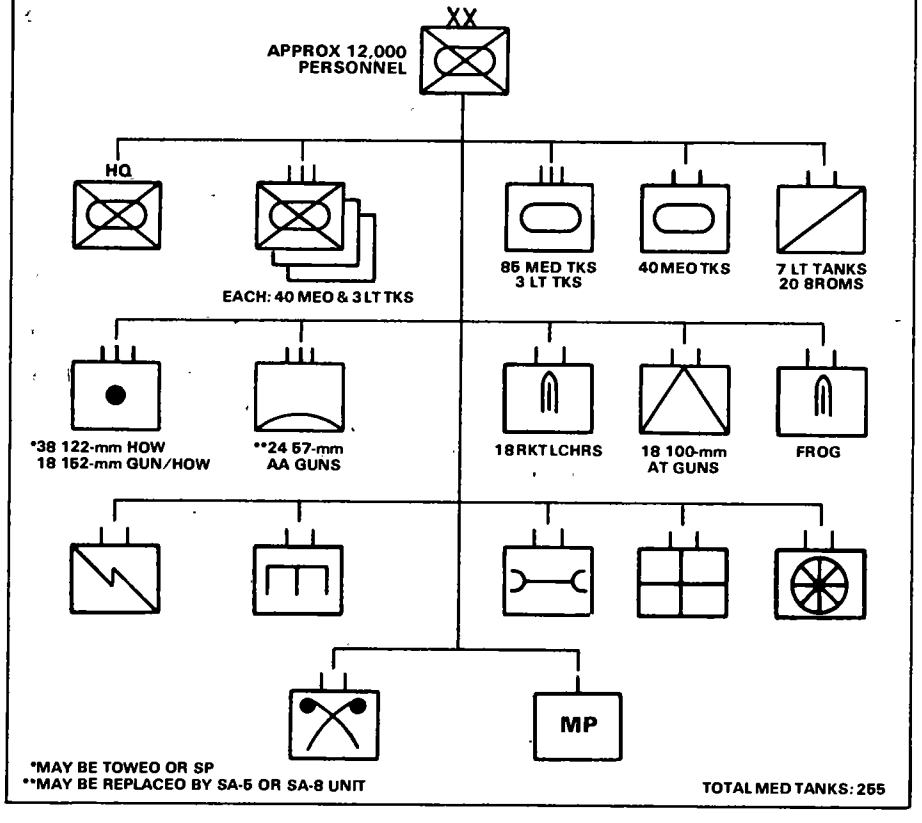
- **SEEK SURPRISE** at all times. Prevent the enemy from reacting quickly and effectively, and paralyze the enemy's will to resist.
- **MASS FORCES** in decisive areas by rapidly concentrating men, materiel, and firepower for the minimum time necessary to rupture enemy defenses.
- **BREACH ENEMY DEFENSES** at weakly defended positions and rapidly advance deep into rear areas.
- **BYPASS STRONGLY DEFENDED AREAS,** leaving them to be destroyed by following echelons.
- **ADVANCE QUICKLY** to build up momentum, which together with mass and continuous operations will gain victory quickly.
- **OPERATE CONTINUOUSLY** during day and night, fair weather and foul, good visibility or poor in order to keep maximum pressure on the enemy and destroy him.
- **USE MASSIVE ARTILLERY SUPPORT** including mortars, multiple rocket launchers, and antitank guns.
- **DEPLOY AND SUSTAIN** a dense and redundant air defense and conduct air strikes into the enemy's rear.
- **ACHIEVE FLANK SECURITY** by aggressive advance.
- **DESTROY** nuclear delivery means early.
- **USE RADIOELECTRONIC COMBAT** to help destroy enemy command control.
- **USE COMBINED ARMS FORCES** echeloned in depth in both attack and defense.
- **BREACH OBSTACLES,** both natural and manmade, quickly.

THREAT ORGANIZATION FOR COMBAT

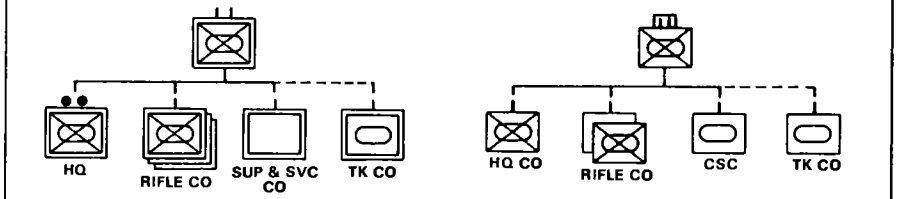
MOTORIZED RIFLE UNITS

Motorized rifle troops are the basic and most versatile arm of Threat forces. They are used to destroy enemy forces. Motorized rifle units are seldom employed without strong artillery, tank, and engineer support.

THREAT MOTORIZED RIFLE DIVISION

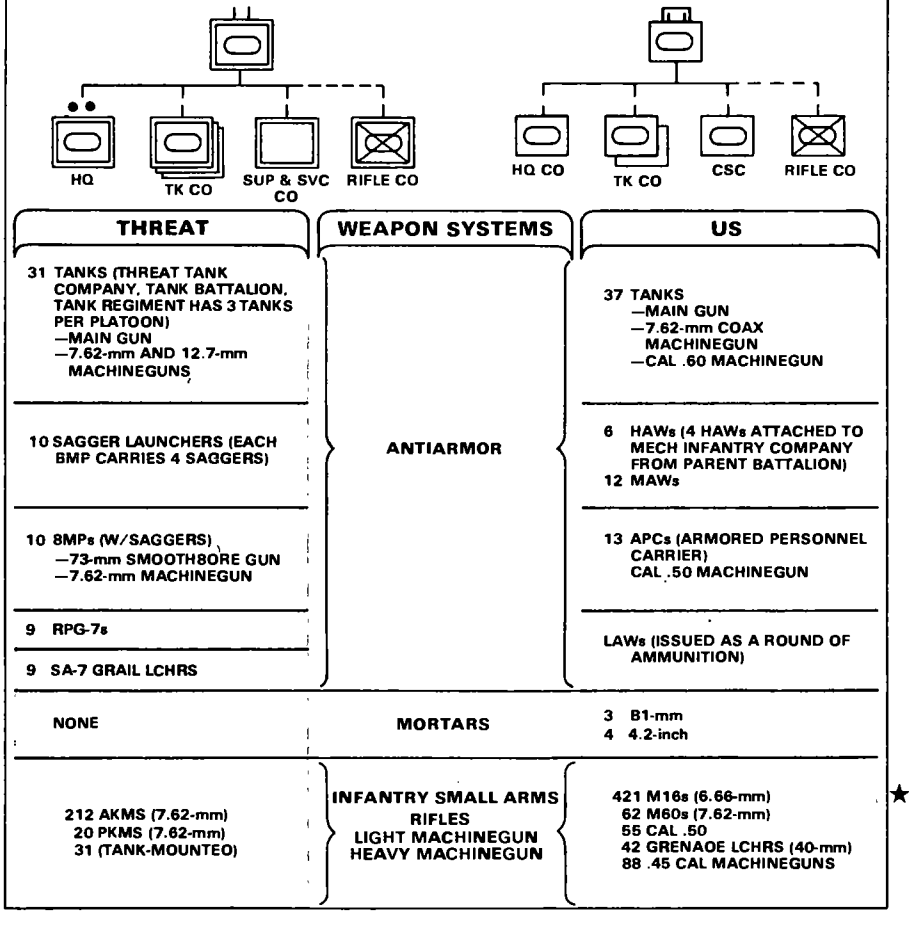


STRENGTH COMPARISON OF THREAT MOTORIZED RIFLE BATTALION AND US MECH INFANTRY—HEAVY TASK FORCE



THREAT	WEAPON SYSTEMS	US
13 TANKS (THREAT TANK COMPANY, TANK BN, MRR HAS 4 TANKS PER PLATOON) —MAIN GUN —7.82-mm AND 12.7-mm MACHINEGUNS	ANTIARMOR	17 TANKS —MAIN GUN —7.82-mm COAX MACHINEGUN —CAL .50 MACHINEGUN
32 SAGGER LAUNCHERS (EACH BMP CARRIES 4 SAGGERS) THERE ARE ALSO TWO MANPACK LAUNCHERS W/2 SAGGERS EACH.		12 HAWs (4 HAWs REMOVED FROM THE BATTALION W/THE DETACHED MECH INFANTRY COMPANY)
32 BMPs (W/SAGGER) —73-mm SMOOTHBORE GUN —7.82-mm MACHINEGUN		24 APCs (IN 2 RIFLE COMPANIES) —CAL .50 MACHINEGUN
2 SPG-9s (BATTALION MAIN RECOILLESS GUN)		22 MAWs (IN RIFLE AND SCOUT PLATOONS)
27 RPG-7s		LAWs (ISSUED AS A ROUND OF AMMUNITION)
8 SA-7 GRAIL LCHRS		
6 120-mm	MORTARS	5 81-mm 4 4.2-inch
★ 355 AKMS (7.62-mm) 64 PKMS (7.62-mm) 13 (TANK-MOUNTED)	INFANTRY SMALL ARMS RIFLES LIGHT MACHINEGUN HEAVY MACHINEGUN	547 M18s (5.56-mm) 30 M80s (7.62-mm) 12 CAL .50 9 CANNON (20-mm) 75 GRENADE LCHRS (40-mm)

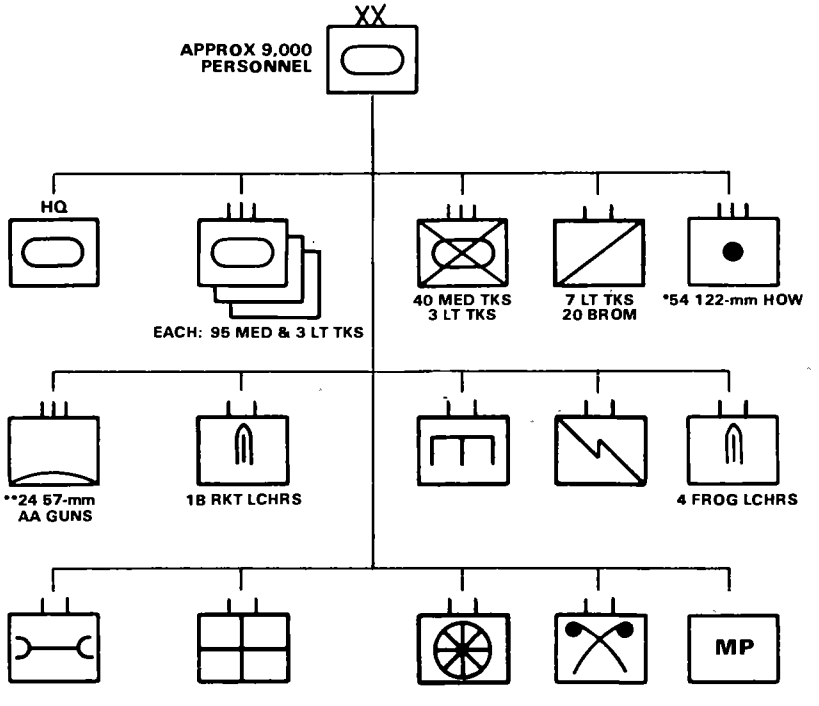
STRENGTH COMPARISON OF THREAT TANK BATTALION AND US TANK—HEAVY TASK FORCE



TANK UNITS

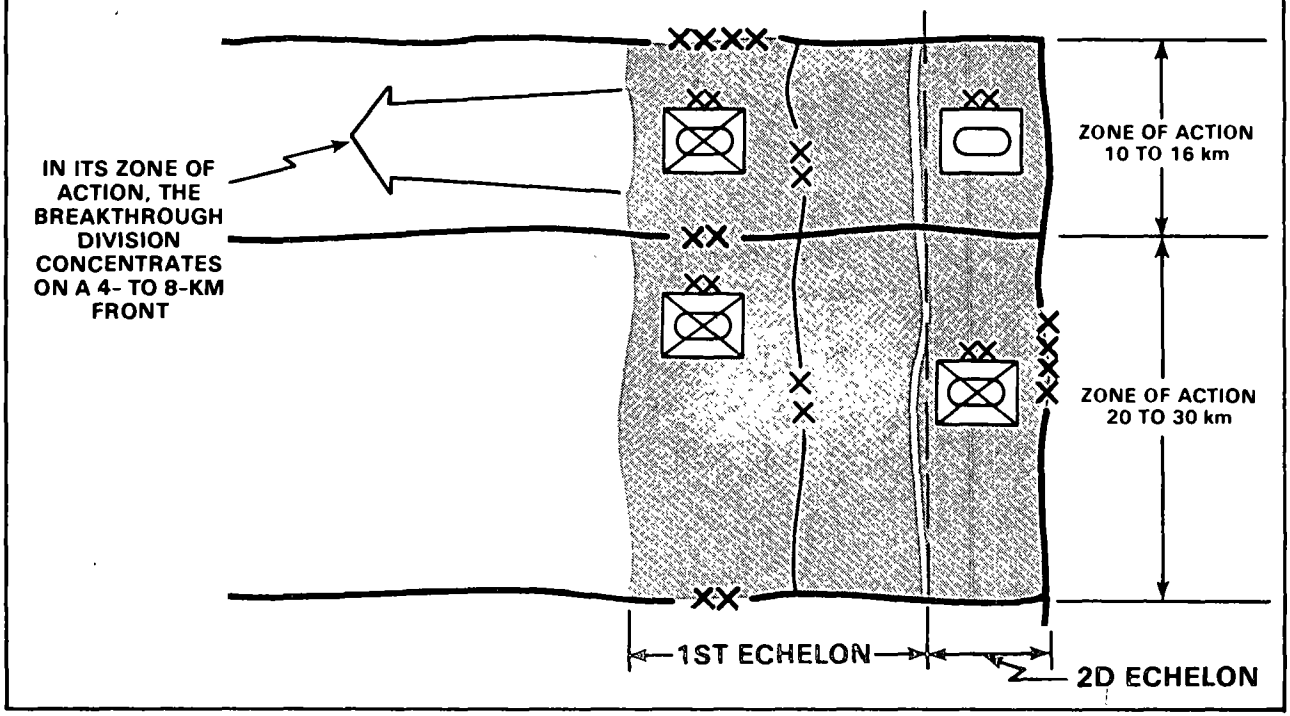
Tanks may be employed at all echelons. *Exploitation is the principal role of Threat tanks.* In the offense, tanks are often employed in mass to seize deep objectives. Tank units attempt to seize such objectives before the enemy is able to reorganize for the defense or counterattack. In the defense, most tanks are held in reserve to be utilized in counterattacks to destroy enemy penetrations and to resume the offense.

THREAT TANK DIVISION



Using these forces in such a way as to achieve the force ratio Threat believes necessary to win, the division commander could expect to see as many as four divisions coming at him in the battle array shown here:

THREAT COMBINED ARMS ARMY IN BREAKTHROUGH



THREAT WEAPON SYSTEMS

Threat weapon systems have two important characteristics—*mobility and complementariness*. Except for individual infantry weapons, all Threat weapons are mounted on wheels or tracks. A prime mover carries anything too heavy for easy handling.

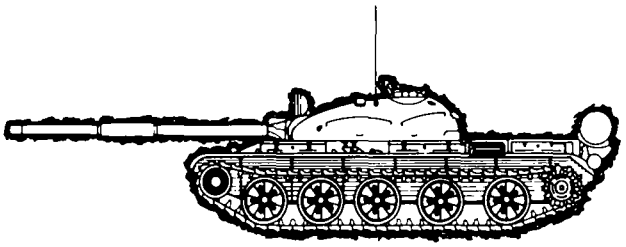
Threat weapon capabilities overlap to provide complete coverage of the battlefield. The antitank weapon system is an excellent example of this complementariness. First, antitank guided missiles engage at long range; next, tank main guns engage at midranges; then AT guns, recoilless rifles, and the BMP 73-mm gun and finally the RPG engage at shorter ranges. At the extremes of its performance band, each system overlaps the characteristics of the other.

THREAT ARMORED VEHICLES

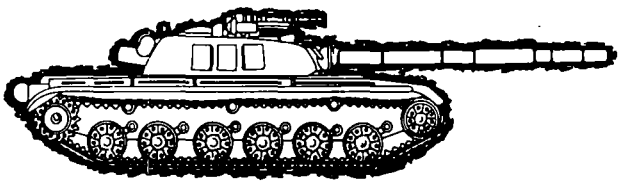
Threat armored vehicles are formidable weapon systems with very lethal capabilities. However, like all other armored vehicles, they can be suppressed and defeated. The use of smoke is an excellent suppressive technique to prevent Threat armor crewmen from acquiring targets. Threat ability to acquire targets is also greatly reduced by suppressive artillery and small arms fire, which makes Threat armor operate *with closed hatches*.

T62/T72 TANKS

Main battle tanks T62/T72. The T62 has replaced the earlier T55 in most Threat Armies. The T62 mounts a 115-mm smoothbore main gun that fires both kinetic energy (high velocity armor-piercing fin stabilized discarding sabot) and chemical energy (high explosive antitank) ammunition. Two follow-on versions, the T64 and T72, are found in some Threat Armies. They mount a 125-mm smoothbore stabilized main gun that fires the same type of ammunition as the T62.



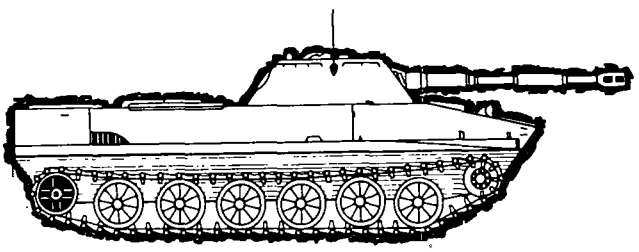
T62



T72

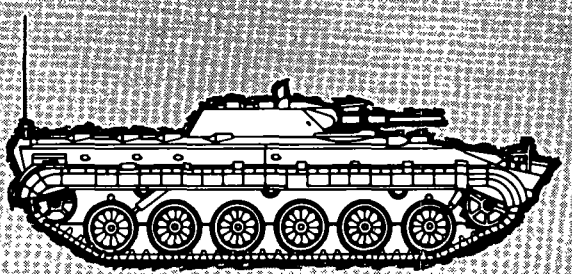
AMPHIBIOUS TANK PT76

Amphibious tank PT76. Reconnaissance units use the PT76, a light amphibious tank that mounts a 76-mm stabilized main gun. This gun fires kinetic energy armor piercing and chemical energy high explosive antitank ammunition, to be replaced in the near future with a BMP variant.



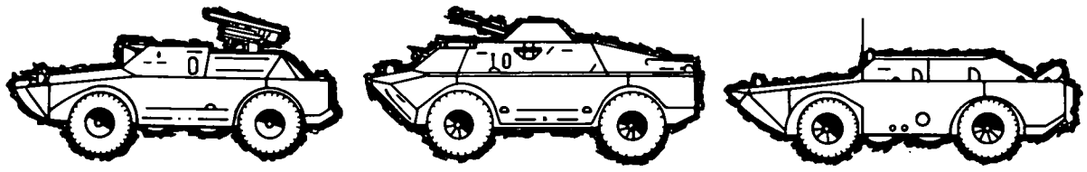
BMP

Infantry fighting vehicle BMP. Threat mounted infantry fight from an amphibious armored fighting vehicle called a BMP. This is a lethal tank killer. It mounts a 73-mm smoothbore gun with a Sagger missile launch rail mounted over the gun.



BRDM

Scout vehicle BRDM. Besides the PT76, Threat reconnaissance units are also equipped with a wheeled vehicle called the BRDM. There are several versions of the BRDM vehicle. Some are armed with a Sagger missile launch rail and 7.62-mm machinegun and carry 14 Sagger missiles on board. Others may be armed only with a 14.5-mm machinegun.



BRDM (SAGGER MISSILE) **BRDM-2** **BRDM**

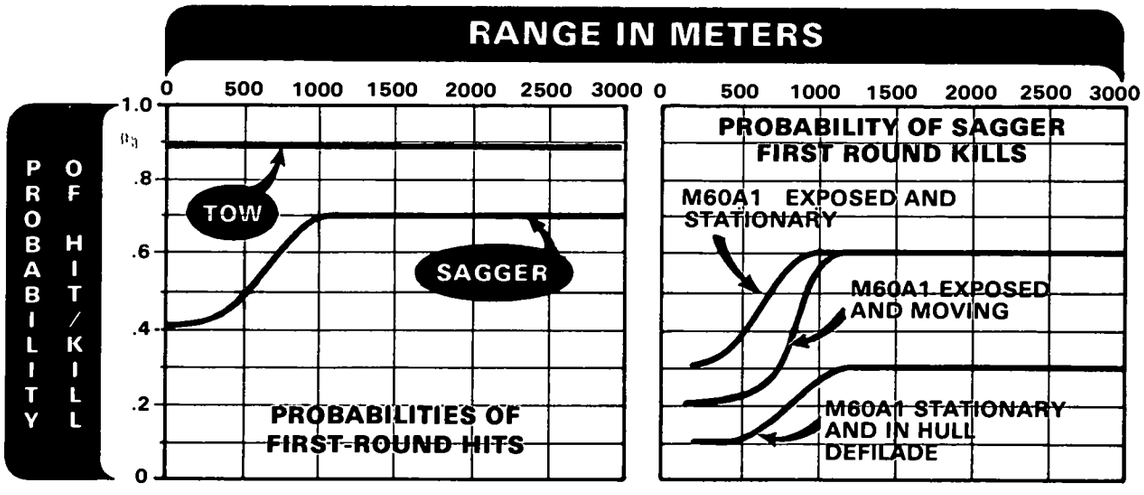
SAGGER

Sagger antitank guided missile. The Sagger antitank guided missile plays a major role in the antitank tactics of Threat forces. It is a wire-guided missile which may be helicopter mounted, ground mounted, or mounted on the BMP, BMD, or BRDM.

There are some important differences between the Threat Sagger and the US TOW. The Sagger is:

- **slower (about 25 seconds flight time vs 16 seconds for TOW);**
- **easy to spot in flight. (It leaves a distinct smoke trail while the TOW is virtually invisible.) and**
- **harder to control. (The gunner must optically track both target and missile at the same time, while a TOW gunner keeps the crosshairs of his sight on the target.)**

But the Sagger has an advantage over the TOW, because its gunner and tracker can be set off from the launcher. This means the Sagger can be fired from a completely covered position—which the TOW cannot do.



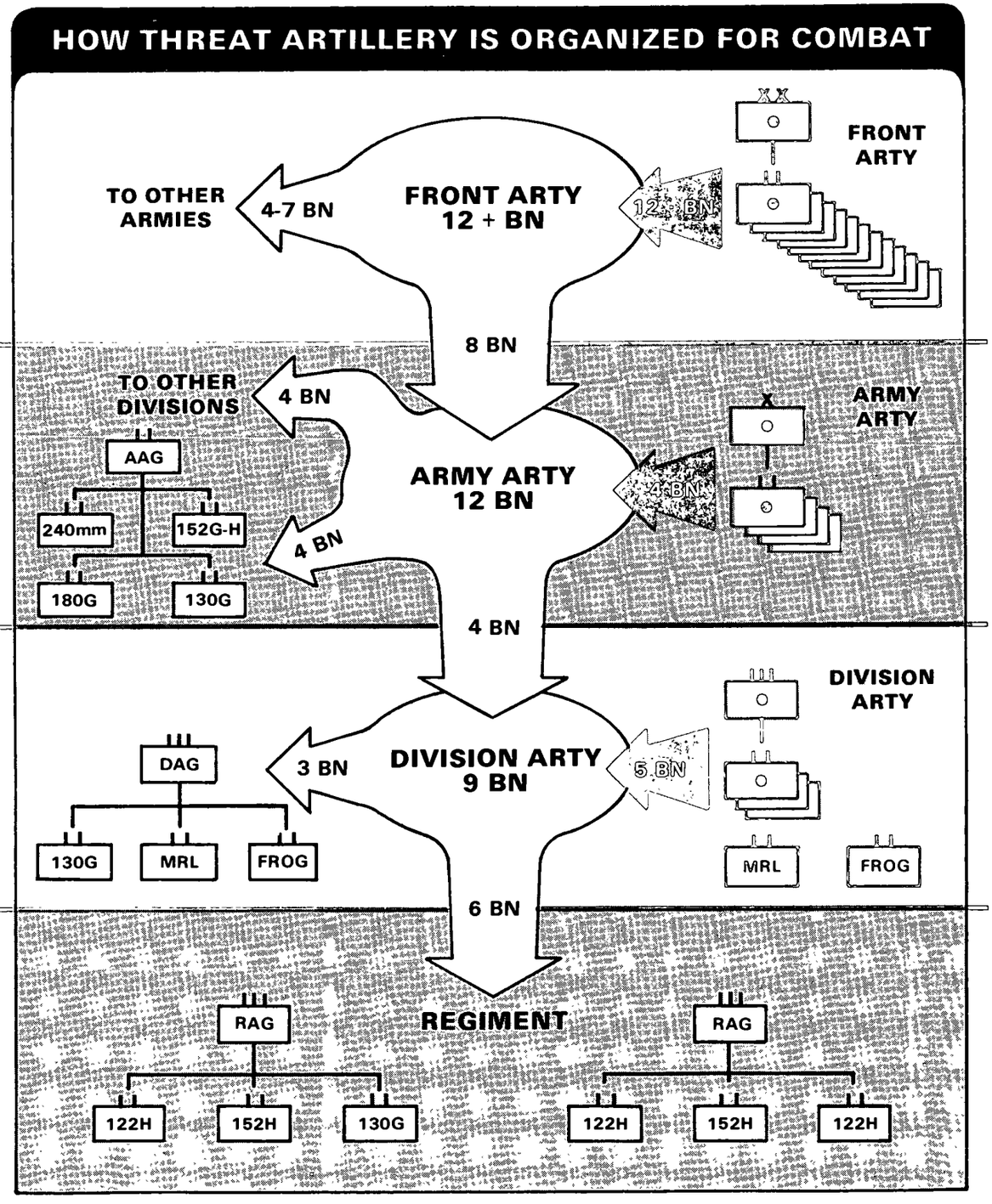
INDIRECT FIRE—COUNTERFIRE

Threat artillery support saturates areas with massive barrages so as to cover all likely targets. Threat artillery also uses the "fire strike," a severe and intense bombardment by artillery weapons to destroy the enemy without using ground troops. Heavy indirect fire is extensively used on targets of opportunity, fortifications, and to support tank and motorized rifle attacks, especially by countering or suppressing ATGM and similar systems.

Threat artillery is organized for combat at army, division, and regimental level by combining organic artillery with that of higher echelons. Each of these groups, the army artillery group (AAG), the division artillery group (DAG), and regimental artillery group (RAG), can be immediately responsive to the level of command it supports. For example, the RAG, led by the senior artillery battalion commander in the group, is under the control of the regimental commander of the maneuver regiment to which it is assigned. A division making the main effort may be further augmented by artillery from second echelon divisions and from army and front artillery.

A group normally contains from two to four battalions. All of the various types of artillery groups are flexible in their organization and can be altered during operations. Fire planning and the execution of fire support for the AAG, DAG, and RAG are centralized at army level at the beginning of a battle and then decentralized as the battle develops. Through this procedure, Threat forces add weight to the main effort.

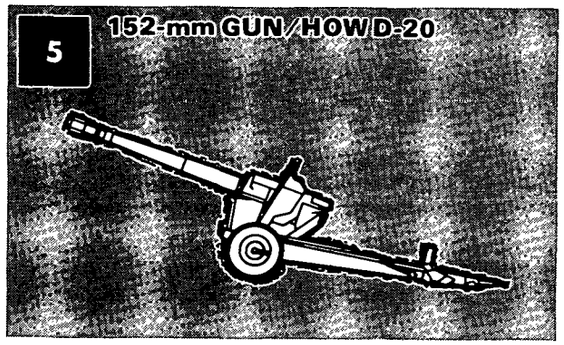
The standard Threat mortar is a 120-mm muzzle-loaded, smoothbore weapon that can be drop or trigger fired. It is trailer-mounted and can be towed by tracked or wheeled vehicles. It can also be disassembled and animal or man packed for short moves. There are six 120-mm mortars in the motorized rifle battalion mortar battery. The battery supports the battalion from positions about 500 meters behind leading companies. The battery displaces by bounds to provide continuous fire support.

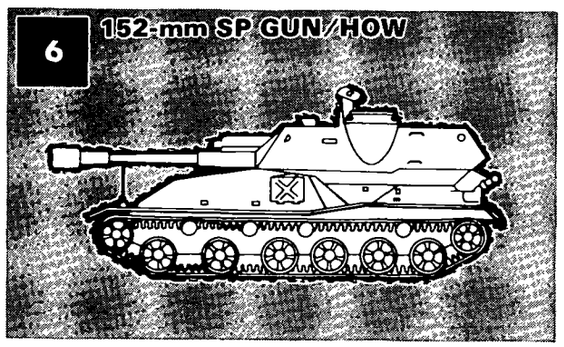


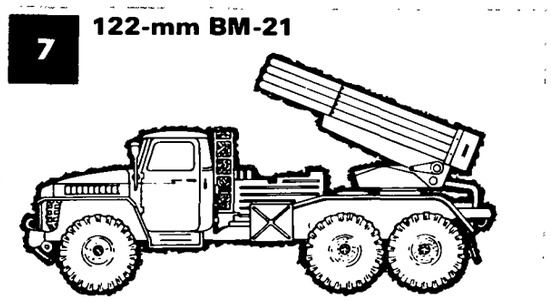
THREAT FIRE SUPPORT

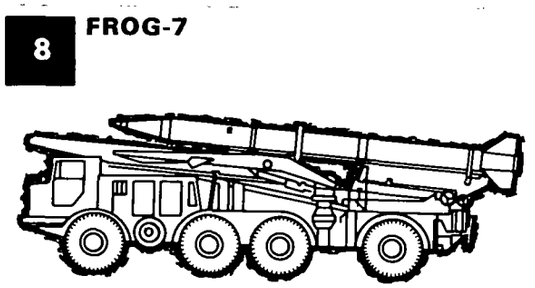
*	WEAPON	RANGE	NORMAL DISTANCE BEHIND FEBA (KM)		RATE OF FIRE (RD/MIN)	ILLUSTRATION KEY
			OFFENSE	DEFENSE		
	120-mm MORTAR	5,700 meters	0.5	1	15	1
	240-mm MORTAR	9,700 meters	2	3	1	
	130-mm FIELD GUN	27,000 meters	5	9	5 to 6	2
	180-mm FIELD GUN	30,000 meters	7	9	1	
	122-mm HOWITZER	15,300 meters	3	4	6 to 8	3
*	122-mm SP GUN	15,300 meters	3	4	4 to 6	4
	152-mm HOWITZER	12,400 meters	3	4	3 to 4	
	152-mm GUN/HOWITZER	17,000 meters	4	5	5	5
*	152-mm SP GUN	18,500 meters	4	5	4 to 6	6
	122-mm MRL BM-21	20,500 meters	5	5	40 RDS/10 MIN (Rate/reload time)	7
	122-mm MRL RM-70	20,500 meters	5	5	40 RDS/5 MIN (Rate/reload time)	
	FROG-7	11 to 70 kilometers	18	23	1 RD/20 MIN	8

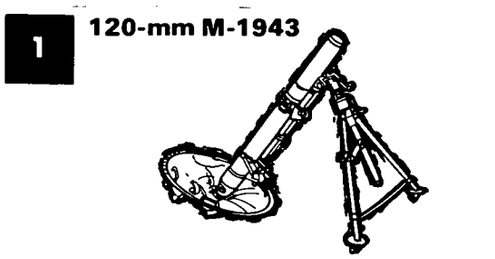
Highest probability for employment in Direct-Fire role.

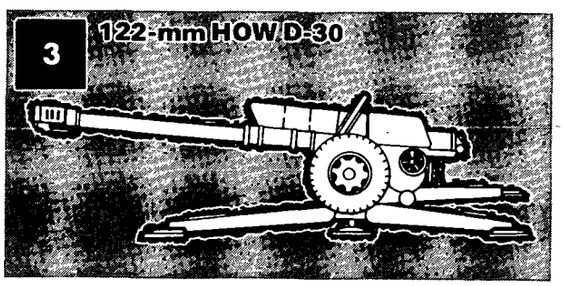


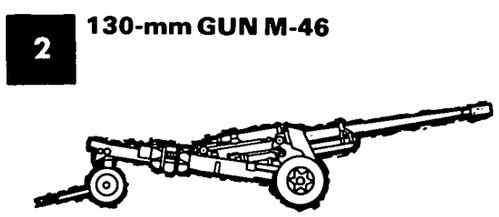


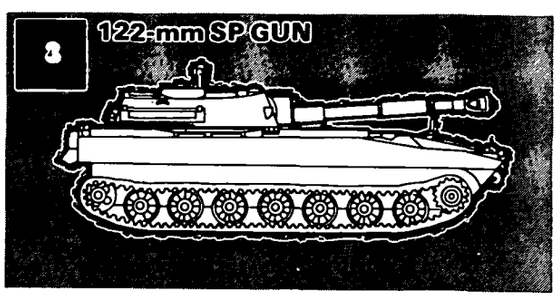












AIR DEFENSE

Threat forces use both mobile surface-to-air missiles and conventional antiaircraft (AA) guns for air defense. Mobile low altitude air defense weapons found in maneuver units are the ZSU 23-4 AA gun system, the portable SA-7 (GRAIL), the vehicle-mounted SA-9 (GASKIN) heat-seeking missiles, and the vehicle-mounted radar-controlled SA-8 (GECKO). Each of these systems is self-contained and capable of operating as a single fire unit. For medium altitude air defense, maneuver units are protected by SA-6 (GAINFUL) batteries. Larger formations are equipped with the SA-4 (GANEF) units for high altitude defense. The most important supply and command installations of the rear may be protected by the transportable SA-2 (GUIDELINE) and/or S-60 57-mm gun.

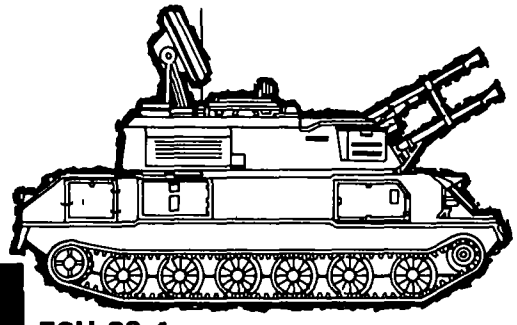
CHARACTERISTICS OF AIR DEFENSE WEAPONS

ANTIAIRCRAFT GUNS

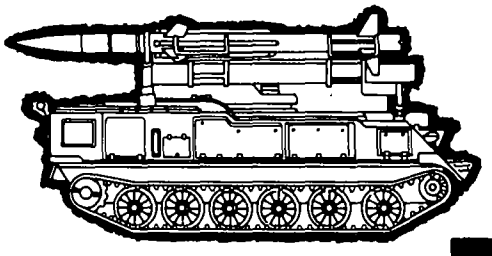
MODEL	CALIBER	EFFECTIVE VERTICAL RANGE (METERS)	MAXIMUM RATE OF FIRE (RPM)	FIRE CONTROL	LEVEL OF ASSIGNMENT	KEY
ZSU-23-4	23-mm	2,500 TO 3,000 (OPTICS) (RADAR)	1,200	RADAR OR OPTICAL	REGIMENT	1
ZSU-57-2	57-mm	4,000	240	OPTICAL	REGIMENT	2
S-60	57-mm	6,000	120	RADAR OR OPTICAL	FRONT/ARMY	3

SURFACE-TO-AIR GUIDED MISSILES

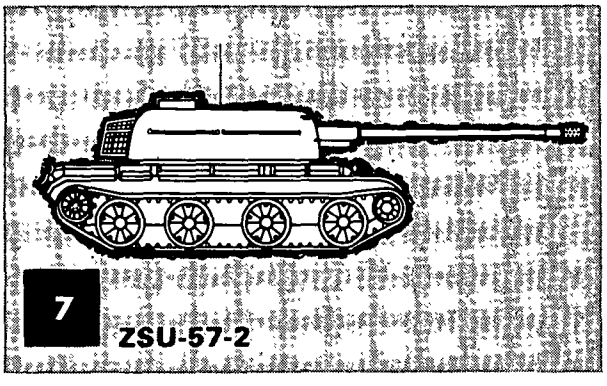
MISSILE NAME	SLANT RANGE (KM)	LEVEL OF PROTECTION	LEVEL OF ASSIGNMENT	KEY
SA-2 GUIDELINE	45	HIGH ALTITUDE	FRONT/ARMY	
SA-3 GOA	22	MEDIUM-LOW ALTITUDE	FRONT	
SA-4 GANEF	70	MEDIUM-HIGH ALTITUDE	FRONT/ARMY	4
SA-6 GAINFUL	30-35	LOW-MEDIUM ALTITUDE	ARMY/DIVISION	5
SA-7B GRAIL Modified	3.5	LOW ALTITUDE	REGT/BN/CO	6
SA-8 GECKO	10-15	LOW-MEDIUM ALTITUDE	DIVISION	7
SA-9 GASKIN	7.0	LOW ALTITUDE	REGIMENT	8



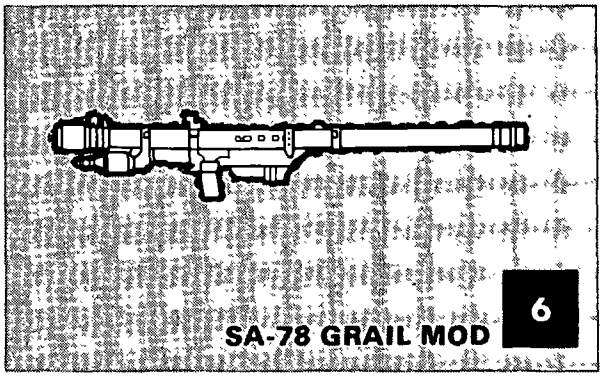
1 ZSU-23-4



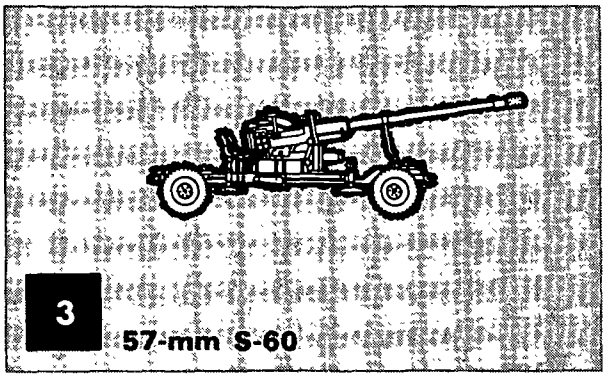
SA-6 GAINFUL 5



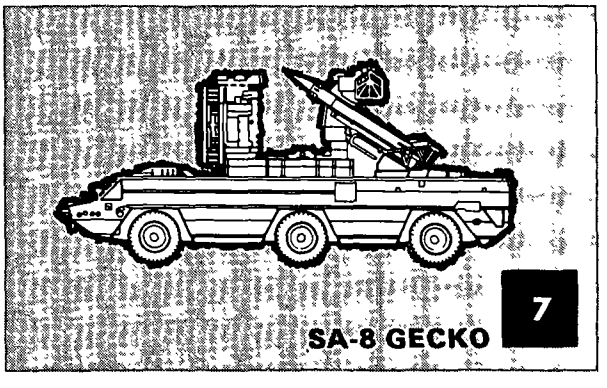
7 ZSU-57-2



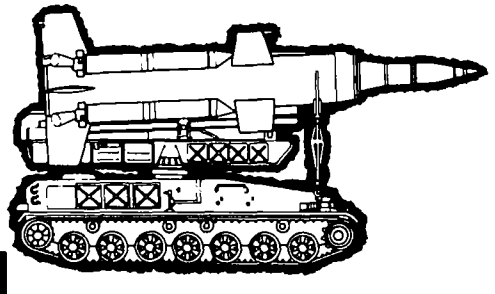
SA-78 GRAIL MOD 6



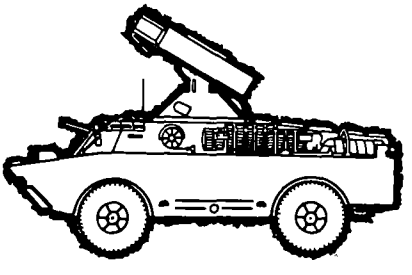
3 57-mm S-60



SA-8 GECKO 7



4 SA-4 GANEF

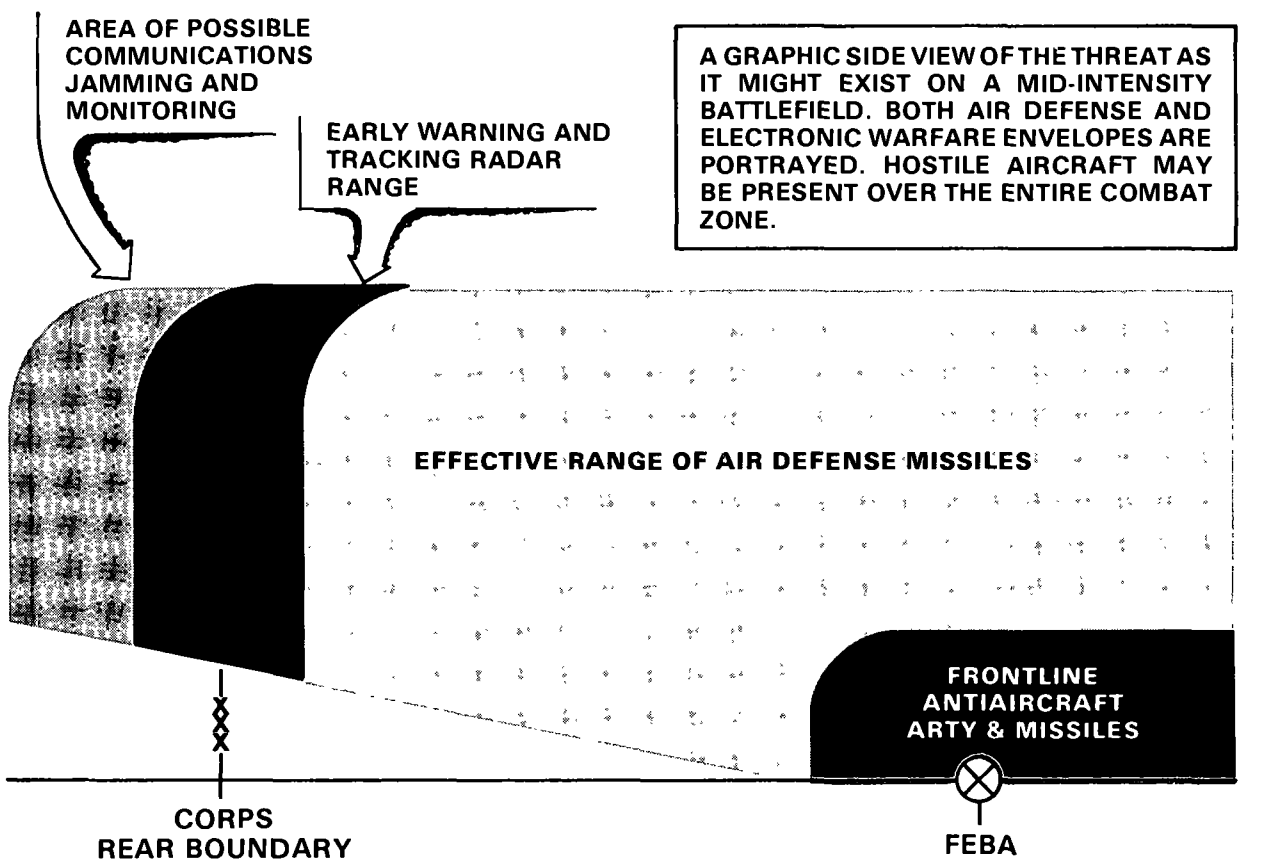


SA-9 GASKIN 8

Threat provides air defense for its mobile formations by saturating the air space from low to high altitude, using integrated and complementary systems of guns and SAMs. Threat field formations rely on vehicle-mounted SAMs and mobile guns to protect fast-moving tank and motorized rifle units. These are augmented by interceptor aircraft of tactical air armies (TAAs) and by electronic countermeasure (ECM) units.

Regimental air defense weapons are employed in direct support of maneuver battalions. They are deployed well forward and their primary targets are enemy close air support aircraft and attack helicopters.

THREAT AIR DEFENSE PROFILE

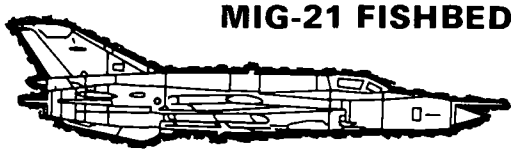


Air defense is established by providing zone or point cover for units and objectives. Zone coverage is provided by SAM systems while point protection is provided by divisional and regimental light air defense weapons. During the planning phase, the Threat division commander personally directs deployment of air defense weapons to support his mission, lays down coordination lines, and establishes priorities and procedures for supply and technical support. The division air defense commander then plans his deployments based on the division commander's instructions and the air situation.

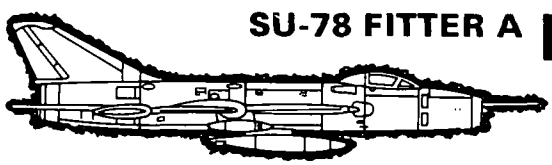
TACTICAL AIR SUPPORT

Support From the Air. Threat forces consider air forces as an extension of artillery. Typical tactical air support targets are tactical nuclear delivery systems, command posts, communication modes, reserves, and artillery. Threat aviation does not normally use more than a small percentage—perhaps 20 percent of high performance aircraft—for support of the first echelon. There are three exceptions to this general rule: support of special operations such as mountain operations and hasty river crossings, support of ground forces which have outrun their supporting artillery, and support to help restore momentum to a ground attack that has run out of steam.

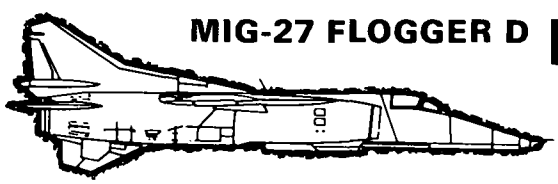
MIG-21 FISHBED 1



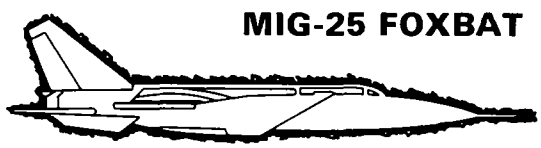
SU-78 FITTER A 2



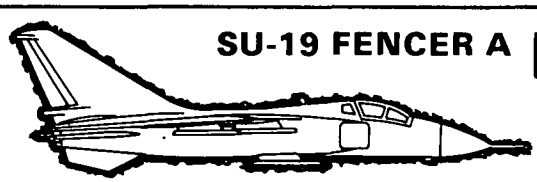
MIG-27 FLOGGER D 3



MIG-25 FOXBAT 4



SU-19 FENCER A 5



OPERATIONAL CHARACTERISTICS

1 MIG-21 FISHBED

TYPE: Ground Attack Fighter
SPEED: 1,203 knots (1,385 mph)
COMBAT RADIUS: 683 miles (1,100 km)
ARMAMENT: Underwing pylons for weapons or drop tanks, rocket packs, etc.; twin barrel 23-mm cannon.

2 SU-7B FITTER A

TYPE: Ground Attack Fighter
SPEED: 1,040 knots (1,196 mph)
COMBAT RADIUS: 200-300 miles (320-480 km)
ARMAMENT: Rocket packs and bombs; usually two 1,650 lb. and two 1,100 lb.; 30-mm cannon.

3 MIG-27 FLOGGER D

TYPE: Ground Attack Fighter
SPEED: 1,030 knots (1,184 mph)
COMBAT RADIUS: 550 miles (885 km)
ARMAMENT: Bombs; CBUs; one six-barrel 30-mm Gatling-type gun; four UB-16-57 rocket pods.

4 MIG-25 FOXBAT

TYPE: Reconnaissance/Fighter
SPEED: 1,835 knots (2,115 mph)
COMBAT RADIUS: 700 miles (800 km)
ARMAMENT: Four hardpoints and internal weapons bay.

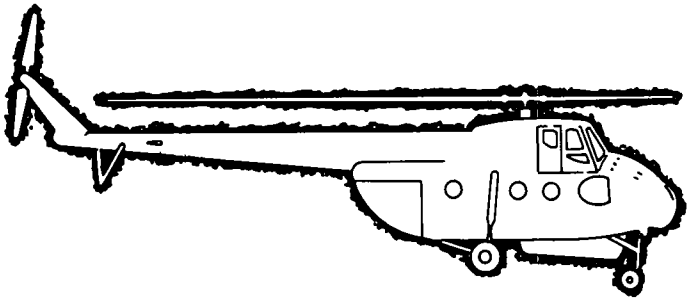
5 SU-19 FENCER A

TYPE: Heavy Fighter/Light Bomber
SPEED: ?
COMBAT RADIUS: 125-250 miles (200-400 km)
ARMAMENT: Externally carried warloads of approximately 5 tons. Includes bombs, 57-mm unguided rockets, or four air-to-surface missiles.

Helicopters. Threat forces have a large helicopter fleet. The fleet includes increasing numbers of heavily armed MI-24, HIND, MI-8 HIP, and MI-4 HOUND aircraft. There are also heavy-lift helicopters for moving supplies and troop-carrying aircraft for air-mobile operations. Threat forces can be expected to use helicopters primarily for close air support of ground operations of the first echelon, and in armed reconnaissance operations.

The division commander can therefore expect his division to be attacked by considerable numbers of armed helicopters and fixed-wing, high-performance systems. Air-mobile forces will be delivered against divisional command control and logistics activities and against chokepoints in the flow of supporting traffic in the division rear. They are also used during river crossing operations and for blocking withdrawing enemy units.

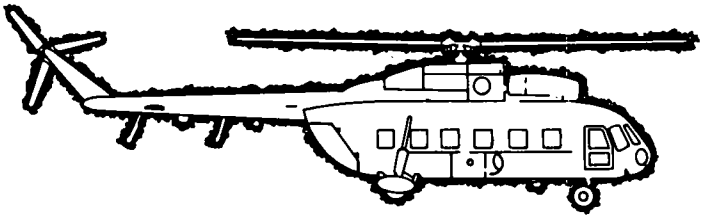
MI-4 HOUND



OPERATIONAL CHARACTERISTICS

TYPE: Transport and General Utility.
SPEED: 113 knots (130 mph).
ARMAMENT: Close support version has machinegun and air-to-surface rockets.
TROOPS: Carries 12-18 men.
NOTE: Airborne cavalry assault or commando raid.

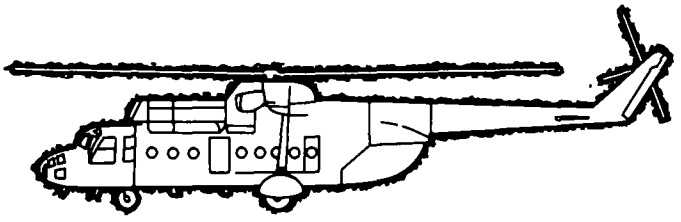
MI-8 HIP



OPERATIONAL CHARACTERISTICS

TYPE: Medium Transport and Assault.
SPEED: 135 knots (155 mph).
ARMAMENT: Can be equipped with external stores.
TROOPS: Carries 12-24 men.
NOTE: Airborne cavalry assault or commando raid.

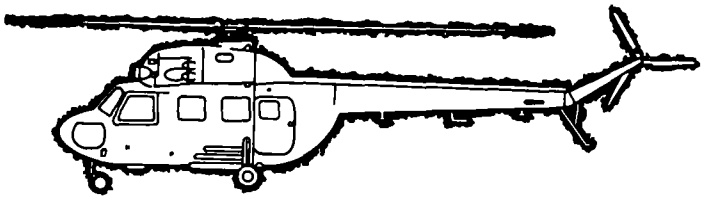
MI-6 HOOK



OPERATIONAL CHARACTERISTICS

TYPE: Transport and Assault.
SPEED: 162 knots (186 mph).
ARMAMENT: Some fitted with gun in nose.
TROOPS: Carries 60-80 men.
NOTE: Airborne cavalry assault commando raid.

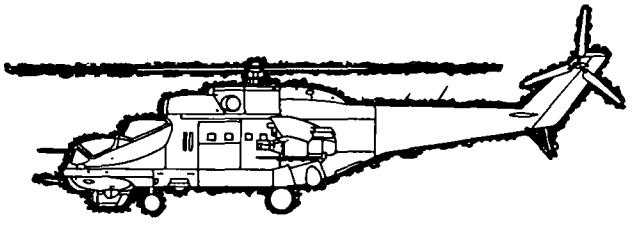
MI-2 HOPLITE



OPERATIONAL CHARACTERISTICS

TYPE: Utility.
SPEED: 113 knots (130 mph).
ARMAMENT: Antiarmor missiles and rocket pods.
TROOPS: Carries 6-8 men.
NOTE: Commando raid.

MI-24 HIND D



OPERATIONAL CHARACTERISTICS

TYPE: Assault/Attack Helicopter.
SPEED: 145 knots (165 mph).
ARMAMENT: Three weapon stations on wings; antiarmor missiles and rocket pods; land nose-mounted, four-barrel, 12.7-mm Gatling-type machinegun.
TROOPS: Carries 8 men.

RADIOELECTRONIC COMBAT

It will be normal for Threat forces to systematically analyze US Army communication and noncommunication emitters. The Threat can be expected to try and destroy or degrade better than 50 percent of enemy divisional command control and weapon-system communications by suppressive fires and electronic jamming. This done, Threat believes remaining enemy command control will be ineffective.

Direction finding of radio transmitters is not precise; and so, Threat artillery is seldom fired at locations provided by direction finding only. However, there are exceptions. Due to the high concentration and wide dispersal of multiple rocket launcher fires, they can be fired against soft targets located by direction finding with a good chance of destroying the target. Suppressive fires are also effective against most radars and jammers since they can usually be located by direction finding to within 50 meters of their actual position. Otherwise, Threat requires information from other sources to refine direction-finding locations into targets. This information is often provided by poor signal security (SIGSEC) or poor electronic counter-countermeasures (ECCM) on the part of US Army forces.

OPERATION AND INTERFACE OF EW SYSTEMS

ELAPSED TIME	UNIT/ACTIVITY	PRIMARY ACTION	CONCURRENT ACTION	UNIT/ACTIVITY
	US TRANSMITTER	**INITIATES COMMUNICATION**		
10 SECONDS	COMINT OPERATOR	DURING SEARCH OF VHF BAND, IDENTIFIES US TRANSMITTER AND FLASHES ALERT TO RDF NCS	ALSO NOTIFIES COMINT ANALYSTS →	COMINT ANALYSTS
25 SECONDS	NET CONTROL STATION (RDF #2)	FLASHES RDF NET REQUESTING BEARINGS FROM EACH STATION TO TARGET TRANSMITTER	COMINT ANALYSTS FORWARD INFO TO PLOTTING & ANALYSIS SECTION	
55 SECONDS	RDF STATIONS #1 AND #3	ACQUIRE BEARINGS AND REPORT BACK TO RDF NET CONTROL		
85 SECONDS	NET CONTROL STATION (RDF #2)	REPORTS APPROXIMATE LOCATION TO PLOTTING AND ANALYSIS SECTION		
115 SECONDS	PLOTTING AND ANALYSIS SECTION	REFINES APPROXIMATE LOCATION BY APPLYING COLLATERAL INFO, MAP ANALYSIS, AND COMINT		
2 TO 3 MINUTES	PLOTTING AND ANALYSIS SECTION	FEEDS INFO TO APPROPRIATE MISSION →	● JAMMING ● FIRE	● COMBAT ● INTELLIGENCE

COMBAT ENGINEER

Threat combat engineer units are found in regiments and divisions. Large specialized engineer organizations such as construction, bridging, assault crossing, mapping and survey, and pipeline construction units are found at army and *front.*

The primary missions of Threat combat engineers are to insure Threat force mobility by rapidly reducing natural and manmade obstacles, and to hinder enemy mobility by creating obstacles. Secondary, but also important, are camouflaging, constructing firing positions, damage clearing, and supplying water.

Threat combat engineer units are equipped with the same small arms, tactical communications, and, in many cases, combat vehicles as are combat arms units. They have the capability to fight as infantry when required.

In the offense, the most important engineer activity is the crossing of rivers. Threat engineer equipment, organization, and training are designed to insure that river crossings can be handled as a normal part of a day's advance—carried out from the march to contact whenever possible. Threat forces have fielded some of the best bridging equipment in the world to enable them to implement their tactical doctrine of high speed assault river crossings.

On the average in Europe there is a 10 to 20 meter-wide river for every 10 kilometers, a 50 to 100 meter-wide river for every 50 kilometers, and a 100 to 200 meter-wide river for every 200 kilometers. Any army moving through Europe must cross many water barriers; Threat forces facing NATO forces are well prepared for such operations. Their troops are well trained in crossing water, and most of their equipment is either amphibious or can snorkel under 5.5 meters of water.

Threat forces foresee two types of river crossings:

- **Hasty** (This type is conducted on a wide front, without slowing the rate of advance, using organic amphibious and snorkeling capabilities and minimal engineer support); and
- **Deliberate** (This type follows detailed planning and an extensive build-up. It is usually conducted after a hasty crossing has failed.)

In the hasty crossing, a forward unit crosses quickly and sets up a bridgehead at a suitable crossing site. Following units cross as they arrive, while engineers simultaneously construct additional bridges for other following units.

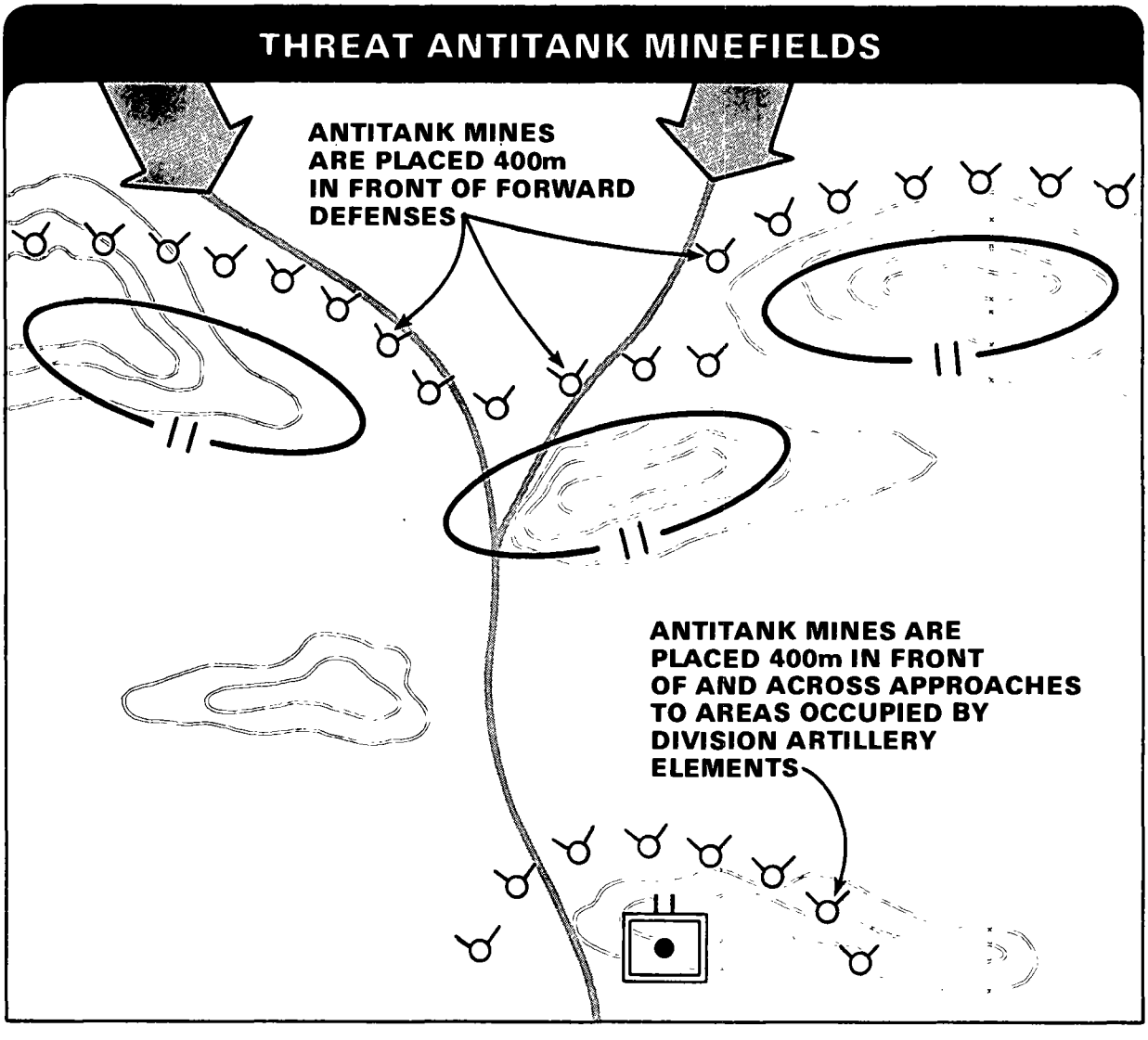
A deliberate crossing is supported by massive artillery fires and is conducted in three phases. First, an assault force crosses and seizes a foothold on the opposite bank. Next, engineers construct crossing facilities and additional combat forces enlarge the bridgehead. Finally, Threat forces launch an attack from the bridgehead against enemy defenses.

Mobile obstacle detachments are formed from organic engineers to provide flank security against armor attack. These detachments vary in strength from platoon to company size and are composed of motorized rifle squads or platoons, antitank teams, and mechanized mine layers. Their mission is to provide protection for the advancing column by laying hasty minefields and constructing other expedient obstacles along armor approaches. *Threat doctrine calls for extensive use of mines, even in the offensive.*

The primary mission of engineers in the defense is to assist combat units in preparing defensive positions, supervise and assist in preparation of obstacles, and assist in maintaining mobility of reserves.

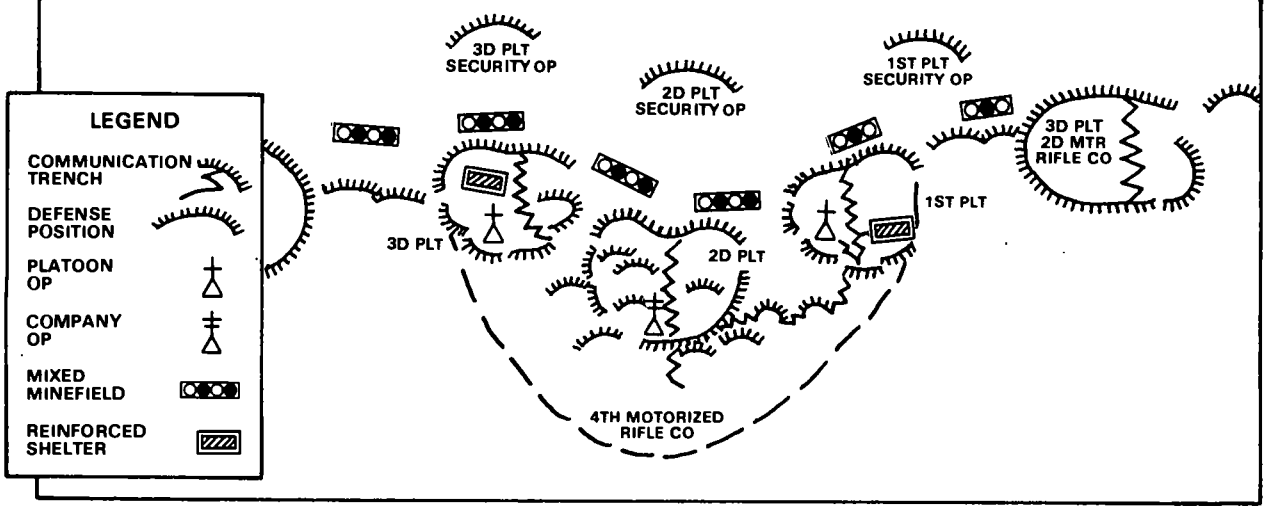
When attacking a Threat force that has had a few hours to prepare defensive positions, the division can expect to see a sophisticated array of obstacles including minefields, antitank ditches, tank traps, abatis, and barbed wire. Even during counterattack operations against flanks of advancing Threat forces, the division commander should expect to encounter hastily emplaced minefields.

Antitank minefields are placed across likely divisional avenues of approach about 400 meters in front of forward defenses and across approaches into areas occupied by division artillery elements.



When establishing a company strongpoint, the Threat normally employs a system of obstacles some 150 meters in width and 90 meters in depth around each forward platoon. The composition of this system may vary, but it generally consists of four belts of AT and AP mines, barbed wire, and antivehicle ditches.

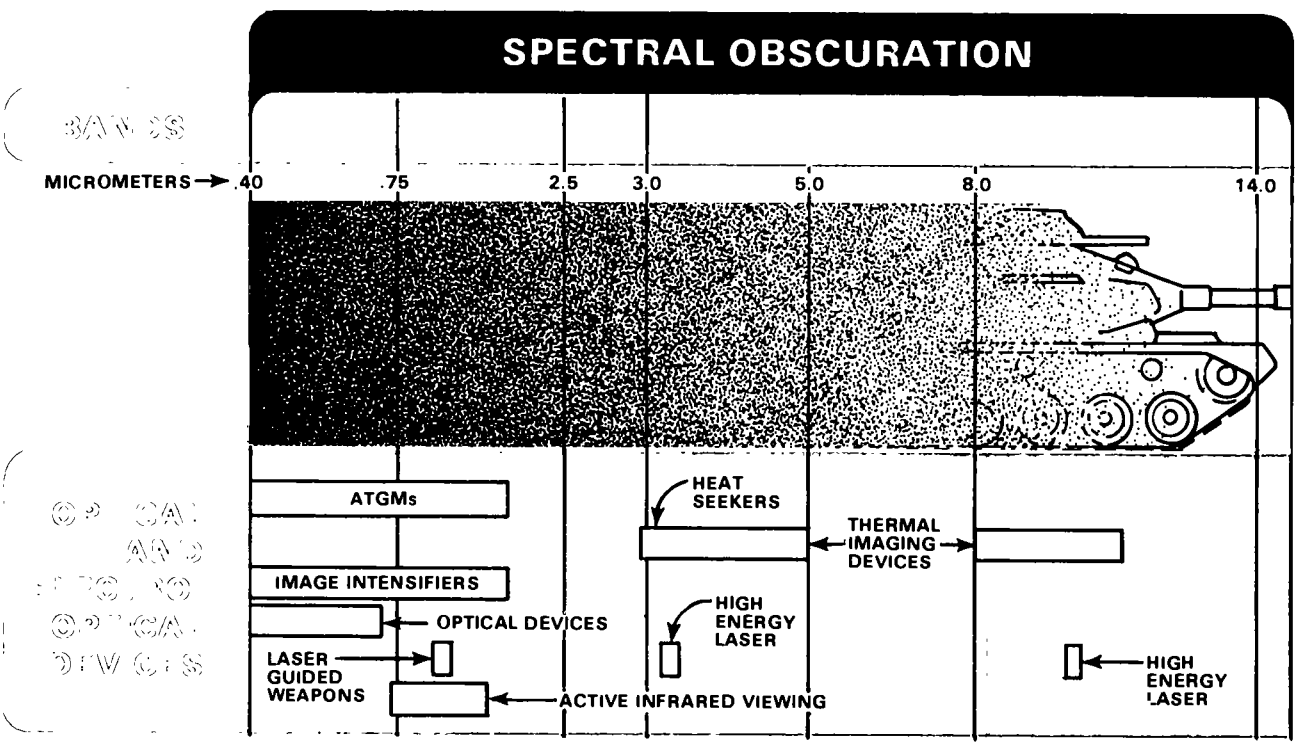
THREAT COMPANY STRONGPOINT



SMOKE

Smoke can blind enemy gunners and observers. It can slow a moving force since vehicle operators and commanders can become disoriented when operating in smoke. Smoke degrades the effectiveness of optical and electro-optical devices that operate in the infrared and visual segments of the electromagnetic spectrum.

SPECTRAL OBSCURATION



Systems operating at or near 1-micron wavelength are most affected by smoke. Included in 1-micron wavelength systems are TOW, Dragon, Shillelagh beacons, and systems employing neodymium lasers, such as the AN/GVS-5 laser rangefinder. Current and future generations of image intensifiers, including individual weapons sights, crew served weapons sights, tank periscope and drivers' goggles, are also 1-micron wavelength systems. The M60A3, however, employs a ruby laser rangefinder. It operates at visible wavelengths where attenuation in smoke exceeds the rangefinding capability of 1-micron wavelength systems.

Systems operating at longer infrared wavelengths such as Redeye, Chaparral, and forward looking infrared devices are also susceptible to smoke. However, attenuation caused by smoke decreases with longer wavelengths, so more smoke is needed to make those systems inoperative. In general, smoke screens 1 or 2 meters deep will not seriously degrade their performance. However, depths of 100 to 200 meters generally render those systems inoperative. *There are no known smoke compounds that will affect radio or radar transmissions.*

Threat forces use smoke both in day and night for a variety of purposes:

- **Blinding smoke** is used on enemy positions and observation posts to degrade the enemy capability to deliver accurate fire on attacking troops.
- **Camouflage smoke** is used over a large area to conceal equipment and troop dispositions from enemy observation.
- **False or decoying smoke** is used to deceive the enemy as to the exact location of troops and equipment. For example, during river crossing operations, smoke screens may be employed at several likely crossing sites. This technique makes it difficult for enemy forces to determine the true crossing site and the actual size of units attempting to cross.

Threat forces are especially well equipped for smoke operations. Their smoke munitions include smoke hand grenades, smoke barrels, drums, pots, spray smoke generators, mortar and artillery smoke munitions, and fog-oil generators mounted on armored vehicles. In addition, smoke-generator units with specially equipped generator vehicles may be assigned to armies for large area smoke support.

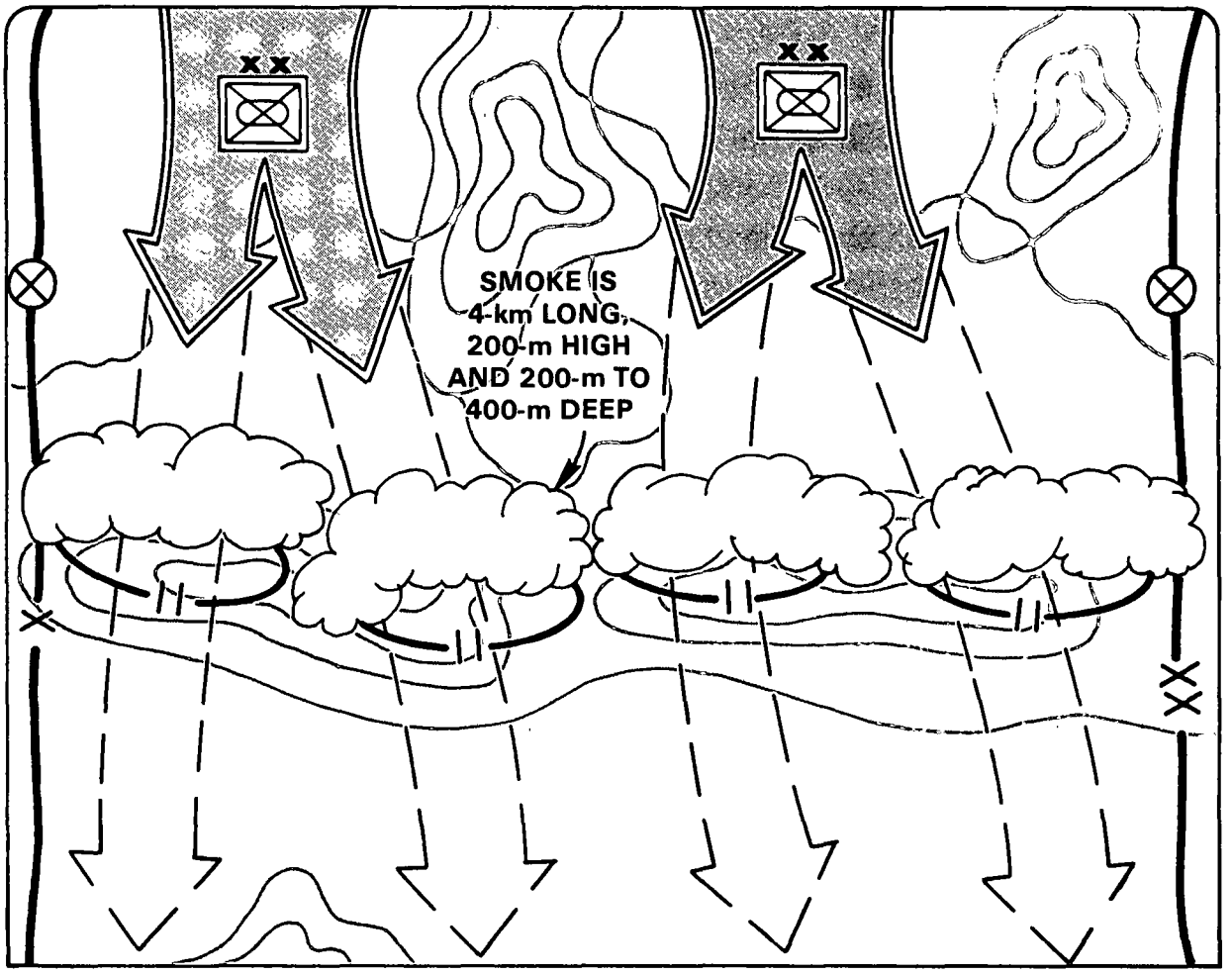
About 7 percent of Threat's artillery basic load is smoke rounds. For example, if the basic load for the 122-mm Howitzer is 80 rounds, 5 or 6 would be smoke; this would be sufficient only for marking targets or "blinding" a point target like an artillery observation post. When smoke is used to cover a large area, or sustained screening operations are necessary, additional smoke munitions must be supplied from supply points. Units can be supplied in about one hour from regimental supply points located 12 to 15 kilometers to the rear of the line of contact.

When enemy defenders employ smoke to conceal their positions or to confuse attackers, Threat will rely on maintaining momentum as a means of survival. *Threat feels that battlefield smoke favors the attacker* and their forces train extensively in a smoke environment so a rapid rate of movement will be maintained.

When an attacking enemy uses smoke, *Threat forces withdraw from the area of heaviest smoke concentration and attempt to flank the enemy and engage him in a crossfire.* Where retention of terrain is required, the Threat may reinforce units within the smoke area with second echelon or reserve elements.

In breakthrough operations, large blinding smoke barriers are normally laid down during the final phase of artillery preparatory fires. *In a typical breakthrough operation, the defending US division commander could reasonably expect to see four to six large blinding smoke barriers*

across his front on major avenues of approach. Each barrier will be about 4 kilometers long, 200 meters high, and 200 to 400 meters deep. The barrier will last about 15 to 30 minutes.



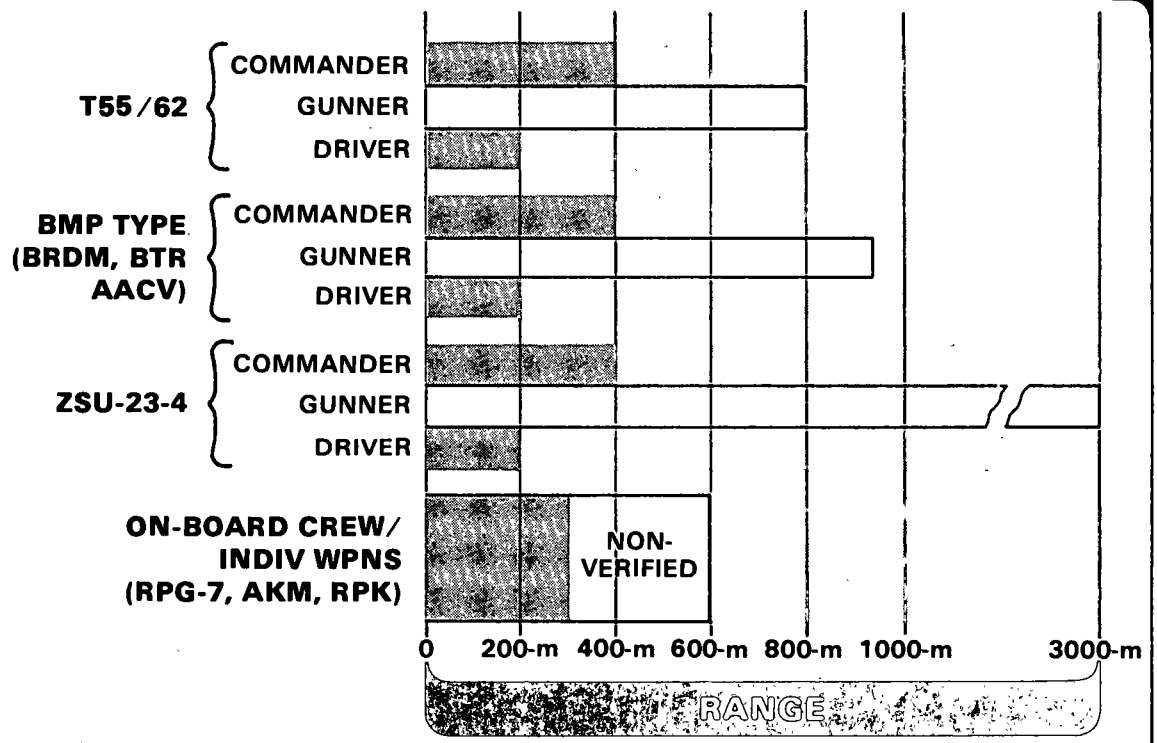
CONTINUOUS OPERATIONS

Threat forces do not stop at night; they use night vision devices to continue the fight. They consider darkness an advantage that must be used, so they have become skilled at night operations. Night tactics are basically the same as those in daylight, with slightly more emphasis on surprise and infiltration.

The current Threat night vision system is an active-passive infrared (IR) system. It includes weapon sights, surveillance devices, driving aids, sniperscopes, intrusion alarms, and metascopes. Observation posts (OPs) with ground-mounted IR searchlights and telescopes have a range of about 1,300 meters. Night sights for Threat snipers and machine-gunners have a range of 300 to 400 meters; similar devices give the 57-mm gun a night range of 800 meters and the 122-mm gun a 1,000-m range.

Tank gunners using IR searchlights can see out to 800 meters directly in line with the main gun, but not to their sides. The tank commander uses a separate IR searchlight having a 500-m range. In addition, all Threat vehicles have devices which give the drivers 80 to 100 meters of night vision. These devices greatly increase the Threat's ability to detect and acquire enemy targets at night.

THREAT NIGHT TARGET DETECTION AND ENGAGEMENT CAPABILITY



Because Threat uses IR illumination (active) in order to make use of his IR vision devices (passive), enemy forces using an active-passive night vision system can also be seen by Threat's passive devices. *With the metascope, a passive hand-held device, Threat forces can detect IR equipment used by an enemy at various ranges,* depending upon the device. For example, the metascope can detect a sniperscope at 600 meters and an IR searchlight at 2,000 meters. On flat terrain, in clear weather, a searchlight can be detected over 6,000 meters away.

CHAPTER 3

Preparation for Combat Operations

In order to fight, the division must make certain preparations.

Preparations for combat operations include:

- **analyzing missions and setting forth tasks to be accomplished,**
- **preparing and issuing plans and orders, and**
- **executing and supervising execution of orders.**

Preparation for a specific operation begins with receipt of a mission. A mission may come orally or in writing. It may be in the form of a complete order, a fragmentary order, or a warning order to be followed by detailed instructions.

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THE DECISIONMAKING PROCESS

DECISIONMAKING IS KEY TO THE COMMANDER IN IDENTIFYING TASKS, DEVELOPING PLANS, AND ISSUING INSTRUCTIONS TO ACCOMPLISH THE MISSION

When a mission is received, decisionmaking begins. Decisionmaking is that process used by the commander to identify his tasks, develop his plan, and issue instructions to his subordinates in order to accomplish the mission. *The lower the echelon, the more simple, direct, and rapid is the process.* Once the battle starts; subsequent orders must be issued rapidly and in the pressure of battle. This means they must be simple. Any decisionmaking process resulting in complex orders will not work in modern battle.

For any operation, the commander must first estimate the situation and then reach a decision. The estimate is normally mental and done as quickly as possible. It is based on:

1. **Mission** analysis.
2. Information available about the **enemy situation.**
3. **Terrain** over which the division must operate.
4. Probable **weather** conditions during the operation.
5. **Forces available** to the division.
6. **Time** available to prepare for the operation.

1

Mission analysis is a matter of determining what must be done, and when and where it is to be done.

2

The ***enemy situation*** is analyzed as is the division's. To do this, the commander must put himself into the enemy's position. Although it is seldom that the commander will have all the enemy information he would like, he uses the best information available. If he has a thorough understanding of enemy organization and tactics, he can determine with a reasonable degree of certainty enemy capabilities, probable courses of action, and their influence on his operation. Any additional information required to complete the plan must be identified to the G2 so that he can set about to obtain it.

3

Terrain often has a decisive influence on a tactical plan. Land battle takes place amid natural and manmade variations in terrain. How best to accomplish the mission is frequently resolved in terms of this terrain. Thus, when defending, it is often necessary either to occupy ground dominating the battlefield or to deny that ground to the enemy. Such a feature then becomes the immediate objective of the attack.

Terrain, properly used, can maximize the effectiveness of the division's weapons while it can minimize their vulnerability to enemy weapons at the same time.

Terrain is evaluated in terms of:

- **Observation:** Observation of the battlefield is necessary in order to bring effective fire to bear upon the enemy and to prevent surprise.
- **Fields of fire:** Fields of fire are most important to the defender. The attacker seeks to make his main effort where the defender does not have the advantage of good fields of fire. The attacker seeks terrain providing good cover and concealment throughout his advance.
- **Obstacles:** Obstacles are natural or manmade features which impede movement. The defender uses obstacles to slow or canalize the enemy advance. The attacker seeks to avoid them.
- **Routes of movement and communication:** Routes of movement and communication are most important to the division commander. Tank and mechanized battalion task forces move their company teams from one covered and concealed position to the next, using covered routes as much as possible. Divisions use lines of communication to support the maneuver of all the combined arms and supporting services. When defending, forward movement of ammunition and lateral movement of weapons may be most important. In the attack, *rapid advance* of combat formations, and of supply trains is most important.

Although much can be learned from studying maps, the division commander and key members of his staff should personally reconnoiter as much of the operational area as possible. Particularly important is the area where the main effort is expected to occur.

4

Weather affects trafficability and visibility. It can influence the ability to rapidly concentrate the force and to sustain it. In good weather, movement is usually rapid. *Bad weather can inhibit movement, but conceal an attack; it also reduces the ability to acquire targets at long ranges.* Plans are based on weather conditions which will probably occur rather than on those which one might desire.

5

Forces available can influence the battle. To organize for combat, it is necessary to know the forces available. The ability of a tank battalion to fight depends on the number of fully-crewed, armed, and fueled tanks that can enter the battle. And so, the status of tank battalions should be defined in just that way. Availability of other combat units should be defined in similar fashion. For example, mechanized battalions should

be defined in terms of fully manned and armed platoons, fully crewed, heavy anti-tank weapon sections, and fully fueled infantry carriers. Field artillery battalions should be defined in terms of fully crewed, armed, and fueled howitzers.

Available combat service support should be defined in terms of its ability to sustain the force throughout the operation. *The ability to evacuate, repair, rearm, refuel, and crew critical weapons in forward areas, and to sort out and treat or evacuate wounded from forward areas is most important.* The ability of the corps to replace critical weapon systems and crews lost in battle must also be known.

Therefore, the staff must gather the necessary information for the commander to measure the condition of his critical weapon systems for battle, the ability of the division to sustain those systems, and the support to be expected from corps.

THE COMMANDER MUST INFLUENCE THE MORALE AND CONFIDENCE OF HIS SOLDIERS

Morale is an intangible factor that can severely affect the condition of a unit. History is full of examples of smaller forces defeating larger forces, because the larger force, although fully armed and manned, did not have the will to win. And so, the commander must determine the way which works best for him to influence the confidence his soldiers have in themselves, their units, and in their leaders.

6

Time influences every action of the division. Time available to prepare for combat operations is most important to the division commander. It is always necessary to consider how long it takes subordinate units to move and to get into position ready to fight or support. Commanders should not use time needed by subordinates to prepare their part of the operation. *A reasonable guide is to use no more than one-third of the planning time available, leaving the remainder for subordinate commanders.*

STAFF APPRAISAL

Much of the information required by the commander to complete his estimate comes from the staff. Each staff officer provides his appraisal of the situation to the extent the division commander may require. A staff officer's appraisal provides significant aspects of the situation and how best to use the means available to accomplish the mission as viewed by the staff officer. The G4, for example, may provide a combat service support appraisal in cooperation with the G1. The G2 normally provides an appraisal of the weather, terrain, and enemy situation. The G3 may provide an appraisal of courses of action. Special staff officers may also be called upon for their appraisals.

THE COMMANDER'S CONCEPT

As part of his estimate, the commander considers the courses of action open to him to conduct the operation. He compares courses of action, considering the mission, enemy, terrain, weather, forces, and time available. The commander often does this together with his assistant division commanders, the chief of staff, G2, G3, the division artillery commander, and other staff officers. After considering the advantages and disadvantages of each course of action, the commander decides on the course of action most likely to succeed. This decision is normally issued to key members of the staff as the commander's concept of the operation. Subordinate commanders may also be present.

The concept of the operation is the commander's description of how he sees the battle being fought. It is described in sufficient detail so that staff officers and subordinate commanders understand exactly what they are to do; so if necessary, they can fight the battle in the absence of further instructions.

PLANS AND ORDERS

Plans and orders are the expression of the commander's concept. *Plans and orders must be simple, concise, and clear.* Plans are normally prepared in writing for future operations which may or may not occur. Orders are issued when new instructions are necessary.

Although orders may sometimes be issued in writing, they are most often issued orally. In any case, *the best way to issue orders to subordinate commanders is face-to-face.*

A **warning order** is issued by the higher commander immediately following receipt of a mission. Its purpose is to alert subordinate commanders of an impending operation so they can begin to prepare. A warning order is normally issued orally. It contains as much information as may be available at that time; but it should contain at least the nature and time of the operation, and the time and place the entire order is to be issued.

An **operations order** details the coordinated action necessary to execute the commander's concept. The order follows a five-paragraph standard format and is usually issued orally by the commander. A written operations order may be prepared before the operation if time permits. One is usually prepared after the operation for historical purposes.

A fragmentary order is issued to modify an operations order, or to replace an operations order if time does not permit preparation of a new one. It includes any items of critical importance that changed since the last order. Fragmentary orders are normally issued orally, although they may be issued in writing. Examples of orders are found in Appendix B, *Example Orders.*

ORDERS GROUP

It is useful to have a standing list of key personnel that the commander desires to be present when he issues his concept of the operation and his order. This is called an orders group. Such a group normally includes assistant division commanders, chief of staff, principal staff members, and key subordinate commanders.

The first critical task of the division commander is to "see" the battlefield. He must locate the enemy and follow his actions far enough away from the division to permit timely decisions to be made and actions to be taken based on those decisions.

Whether the division is attacking or defending, information about enemy second echelon forces is particularly important to the division commander. This is true for two main reasons. First of all, second echelon forces—especially second echelon regiments and divisions of first echelon armies, are the enemy commander's primary means of influencing the battle being fought against division forces in contact. Secondly, second echelon forces, because of their deployment in depth, cannot be reported on by forces in contact. Therefore, they must be sought out by a variety of surveillance means, many of which will not be under the division commander's immediate control.

As a general rule, *the deeper a commander must see into the enemy force, the more he must rely on surveillance means, again, not under his control.* Combat information from those means will not surface through the intelligence-gathering process unless special measures are taken to do so. Some of those special measures are set forth in the following paragraphs.

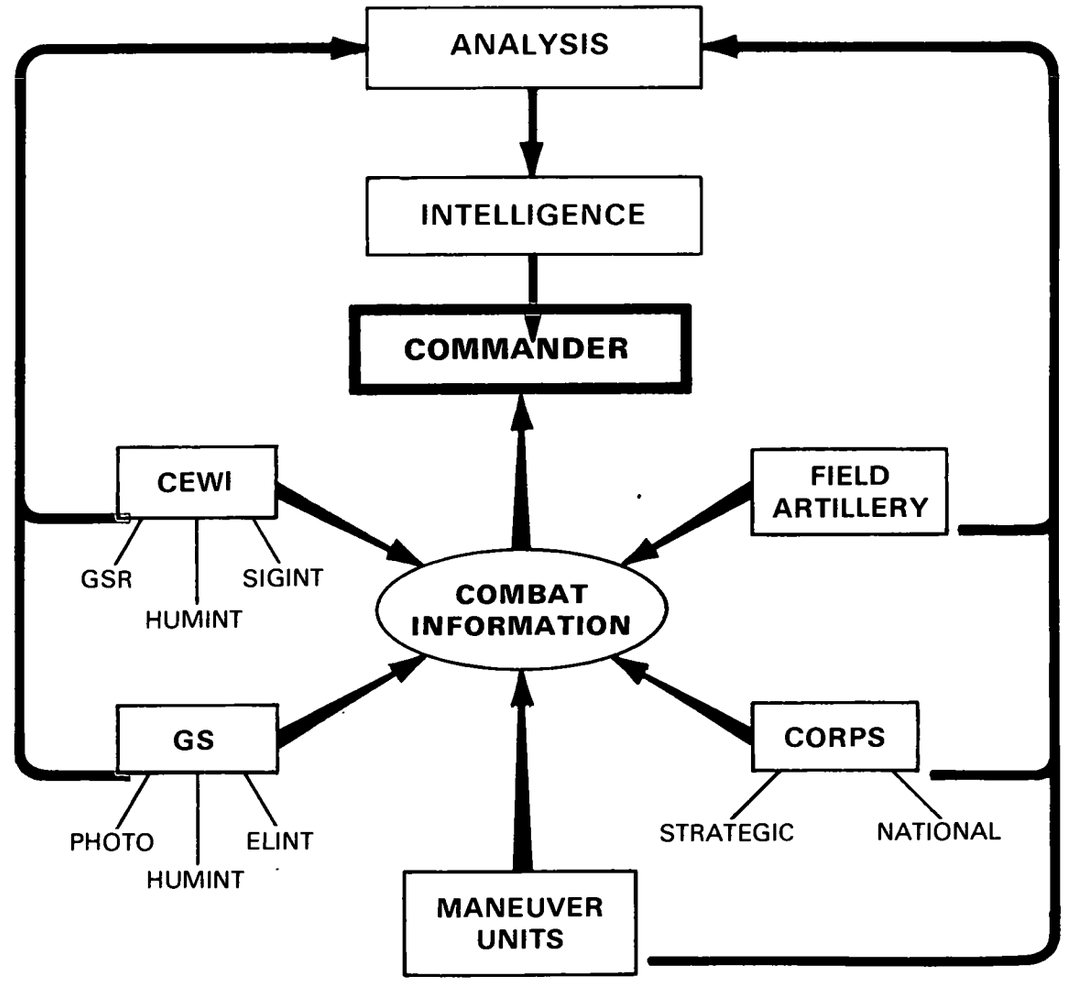
The division commander directs division intelligence operations. He is the principal user of intelligence, and he determines what unknown information he requires about the enemy and the environment and when he needs it.

The division commander conveys his requirements to the G2 who converts them into essential elements of information (EEI) and other intelligence requirements (OIR) for the commander's approval or modification. EEI and OIR are the basis for establishing intelligence-collection priorities, allocating collection resources, and assigning collection tasks.

INTELLIGENCE OPERATIONS

The G2 translates EEI and OIR into missions for subordinate units and requests for information from supporting agencies. He collects information from all sources—tactical, strategic, and national systems—that provide human intelligence, electromagnetic intelligence, and aerial imagery reconnaissance. *Once intelligence is obtained it must be disseminated quickly to those who need it.*

COMBAT INFORMATION/INTELLIGENCE—COLLECTING CYCLE



Templating is a useful tool to assist the commander in assessing enemy intentions. The commander may identify, for example, a road junction through which the enemy must move to reinforce. If traffic of a specified type passing through the road junction reaches a specified level within a specified period, the G2 is to inform the commander immediately. This is called **event templating.**

Doctrinal templates can be prepared based on enemy doctrine—how he deploys his forces for different operations. Observed events can be compared to doctrinal templates to provide indications of what the enemy intends to do. Doctrinal templates can also be used to estimate the size enemy force an avenue of approach can support.

In considering possible enemy courses of action, the commander must guard against the unwarranted belief that he has discovered the enemy's intentions, and against ignoring other courses of action open to the enemy. Templating is further described in Chapter 7, *Command Control of Combat Operations.*

Several organizations are used to gather combat information and provide intelligence to the commander.

Intelligence from higher commands, national, strategic, and other services is obtained from corps. The corps can also provide aerial imagery reconnaissance and signal intelligence to support divisional collection efforts.

The most immediate combat information comes from tank and mechanized battalions. This information may not be extensive, but might be the best for it is first hand. Requests for field artillery fires are also a good source of battlefield information. **The armored cavalry squadron is used to conduct reconnaissance operations as described in FM 17-95, Cavalry.**

The **divisional combat electronic warfare and intelligence battalion** is organized to analyze and produce intelligence, interrogate prisoners of war, and interpret imagery. It also has a counterintelligence section which performs operations security functions and surveys. Operations security includes operations to neutralize, defeat, or confuse enemy intelligence. The G2 and G3 work together to provide for operations security. Operations to neutralize enemy intelligence are the staff responsibility of the G2. The G2 also assesses friendly vulnerabilities and the G3 plans to deceive, defeat, or confuse the enemy and enhance friendly survivability.

The combat electronic warfare and intelligence battalion also provides:

★■ **Electronic warfare support measures** (ESM): ESM is used to search, intercept, identify, and locate enemy electronic emitters.

■ **Electronic countermeasures** (ECM): ECM is used to suppress enemy communications, electronic surveillance, and target acquisition devices (jamming). Electronic countermeasures can also be used to deceive the enemy so that he reacts to the division's best advantage. *This is called imitative electronic deception.*

★These measures and electronic counter-countermeasures (ECCM) taken to protect friendly emitters are described as electronic warfare operations. Although ESM is used to attack enemy emitters, they are described together here because of their interrelationship.

The division commander establishes target priorities for electronic warfare based on the threat to the division or on vulnerabilities of enemy emitters. Enemy regimental command control nets are particularly important and should be suppressed or exploited.

The intelligence value derived from an enemy emitter versus the tactical value of denying the enemy use of the emitter must be carefully considered. The commander may reserve to himself the decision to attack or suppress electronic emitters which have intelligence value. Other emitters which have no intelligence value may be attacked by fire or suppressed by jamming routinely. The G2

should determine the risks and benefits of employing electronic countermeasures against certain targets, and so inform the commander.

Jamming must complement the operation. The G3 is responsible for integrating electronic countermeasures with maneuver. The communications-electronic officer (who is the signal battalion commander), G3, and G2 work together to avoid or minimize interference with friendly emitters.

Jamming can only be effective for short periods of time, for the enemy will take evasive action or use countermeasures. So, the best way to suppress an enemy emitter interfering with friendly operations is to destroy it by fire.

It is to be expected that the enemy will use electronic means to locate friendly emitters. ECCM must be used to protect divisional electronic surveillance and target acquisition equipment from enemy interception, deception, jamming, and destruction.

If an enemy system is located and is beyond the division's capability to monitor or suppress, assistance can be obtained from corps electronic warfare units.

ORGANIZATION FOR COMBAT

Divisions are organized to destroy the enemy. To do this, the division has a variety of weapon systems—tanks, antitank weapons, riflemen, field and air defense artillery, and sometimes, attack helicopters. Close air support is provided by the US Air Force.

QUANTITY OF DIVISION WEAPON SYSTEMS

WEAPON SYSTEMS	ARMOR	MECH INF
M60A1	324	270
M551	27	27
M113	376	415
M113 TOW	154	168
DRAGON	200	240
M109A1	54	54
M110	12	12
CHAPARRAL	24	24
VULCAN	24	24
REDEYE	72 TEAMS	72 TEAMS
CEV	8	8

In order to destroy the enemy, the division must move. In order to move in the face of lethal weapons in the hands of a capable enemy, the division must suppress—suppress the enemy's direct and indirect fire weapons, his target acquisition, and his electronic warfare systems. *In order to move, suppress, and destroy the enemy, the many arms and services of the division must work together.*

And so, the division does not operate by employing separate units. If it were to do so it could only bring to bear a fraction of its potential combat power against the enemy, because the weakness of one weapon system would not be offset by the strength of another. This is why tanks, for example, are not normally employed without infantry.

Tables of Organization and Equipment (TOE) detail manpower and equipment authorizations for divisional units. However, all Army units are organized under Modified Tables of Organization and Equipment (MTOE). In order to determine manpower and equipment authorizations for a specific unit, it is necessary to refer to the authorization document (MTOE) for that unit. Therefore, the following pages describe organization and equipment in general terms, relying on the reader to apply principles to the specific situation in which he finds himself.

TANK AND MECHANIZED BATTALIONS

A variety of weapons are found in tank and mechanized battalions. Tank battalions are organized with main battle tanks, mortars, shoulder-fired air defense weapons, and heavy antitank guided missiles. In a mechanized battalion, infantry soldiers are armed with rifles, machineguns, and light, medium, and heavy antitank weapons. Mortars and shoulder-fired, air defense weapons are also found in mechanized battalions.

Tanks and antitank weapons are best used to destroy enemy tanks and other armored vehicles. Infantry is best used to destroy enemy infantry and to protect tanks in places where freedom of maneuver is restricted by terrain. Infantry also protects tanks at night and under other conditions of limited visibility. Mortars are used to suppress and destroy enemy gunners with high explosive rounds and to obscure the enemy's view of the battle with smoke.

EFFECTIVE USE OF FIGHTING ELEMENTS

- **Infantry operates at times and places where fields of fire are relatively short.**
- **Tanks are most effective where they can move rapidly and fields of fire are relatively long.**
- **Heavy antitank weapons are most effective at long ranges. They are used to deliver long-range, highly lethal, point fire against armored vehicles, and sometimes, against field fortifications.**

Tank and mechanized battalions are grouped by the division commander to fight under brigade headquarters. The brigade commander organizes for combat by grouping tanks and mechanized companies under a tank or mechanized battalion headquarters. This organization is called a battalion task force. **Tank and mechanized battalion task force operations are described in FM 71-2, The Tank and Mechanized Infantry Battalion Task Force.**

A brigade may be tank heavy, mechanized heavy, or balanced, depending on the mission, enemy, terrain, and forces available.

Mission

- Missions requiring rapid movement over considerable distances generally call for tank heavy or balanced forces.
- Missions requiring retention of terrain generally call for mechanized heavy or pure mechanized forces.
- Counterattacks generally call for tank heavy forces.

Enemy

- In a movement to contact, anticipating a meeting engagement followed by a hasty attack, tank heavy or balanced forces are preferred.
- Against deliberate enemy defenses featuring strong antitank systems, mechanized heavy forces are preferred.
- If the enemy is known to be primarily a tank force, then pure tank or tank heavy forces should be used.

Terrain and Weather

- Conditions providing good long-range observation and fields of fire generally call for balanced forces or forces heavy in long-range antitank guided missiles (ATGMs).
- Terrain with shorter engagement ranges and high speed avenues of approach favor the tank cannon over the ATGM. Here, tank heavy forces are preferred.
- Operations in terrain with significant obstacles—forests or urban areas—generally call for mechanized heavy forces or pure mechanized forces.
- During conditions of poor visibility caused by fog, snow, or rain, mechanized infantry, often dismounted, is preferred.

THE ARMORED CAVALRY SQUADRON

Cavalry is a combat maneuver force of combined arms mounted in ground and aerial vehicles, uniquely organized and equipped for its mission. It is trained to find the enemy in order to prevent the friendly main body from being engaged under adverse circumstances and to provide within its capability, security for the main body. Cavalry organization and employment exemplify two essential requisites for battle:

1. **The need to find the enemy and develop the situation with the least force possible.**

2. **The need to provide reaction time and maneuver space with a force tailored to leave the bulk of combat power in the main body available for employment at the time and place of decision.**

The armored cavalry squadron is organized with three ground troops and an air cavalry troop. Cavalry often conducts offensive, defensive, and delay operations. It is particularly suited for economy of force missions. **Cavalry operations are described in FM 17-95, Cavalry.**

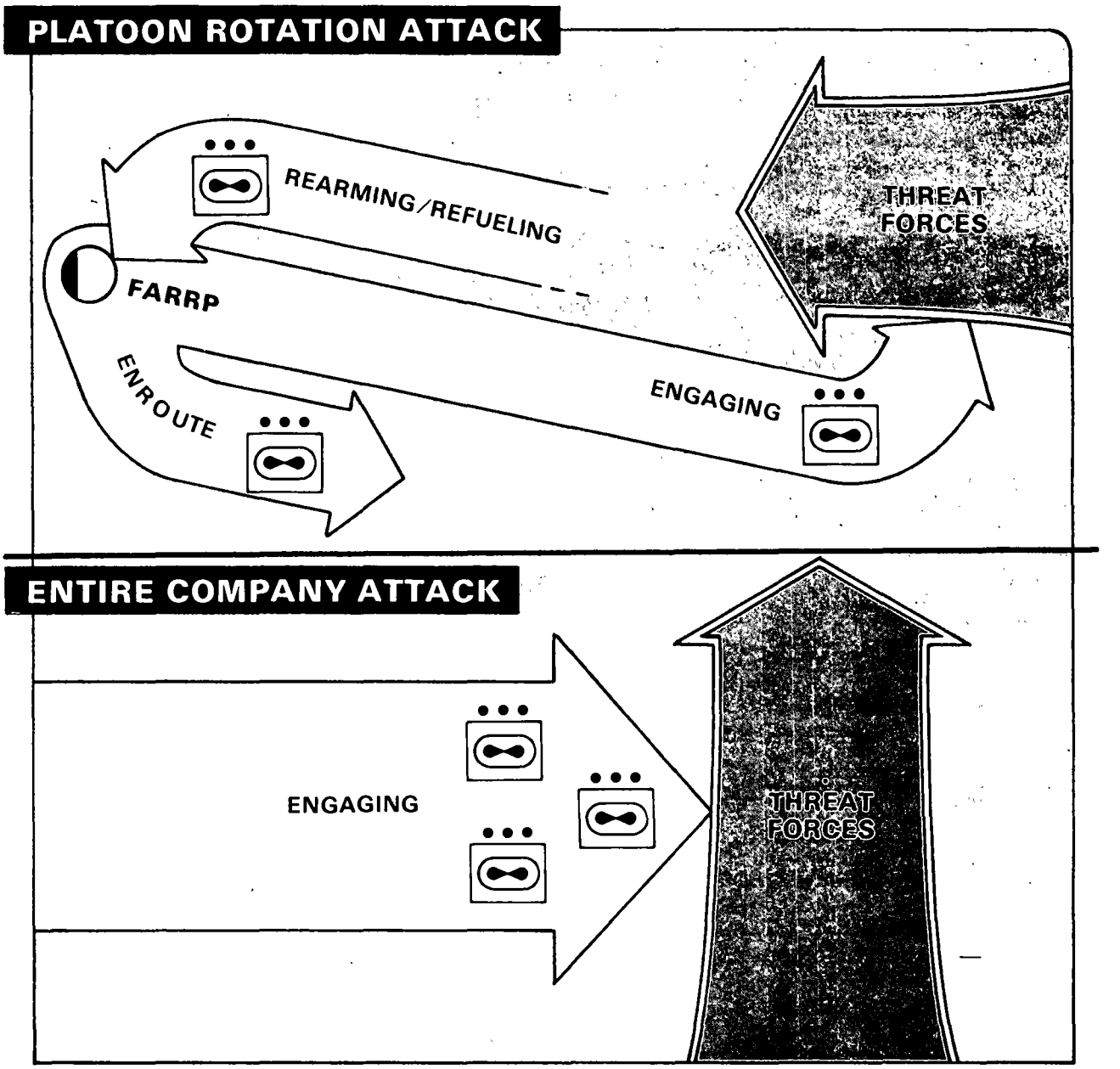
ATTACK HELICOPTER UNITS

Attack helicopter units are air maneuver units. They employ highly mobile, responsive aerial combat vehicles that operate as part of the combined arms team. They can destroy tanks and other armored vehicles with heavy antitank weapons; they can destroy dismounted infantry and attack area targets with rockets. Attack helicopter units live in the ground environment. *They maneuver like ground units to engage enemy from the front, flanks, and rear.*

Attack helicopter companies should not be attached to brigades due to their heavy requirements for fuel and ordnance. They are,

however, often placed under operational control of brigades. When it is necessary to attach an attack helicopter company to a brigade, combat service support must be provided for.

Attack helicopter companies should never be parcelled out by platoon. An attack helicopter company normally fights by applying continuous pressure, with one platoon engaging, one platoon rearming and refueling, and one platoon enroute to or from a forward area rearm and refuel point (FARRP). A second, although less frequently used method of employment is one in which an entire company might be employed in the same area, at the same time, against the same target. **How attack helicopter units fight is described in FM 17-50, Attack Helicopter Operations.**

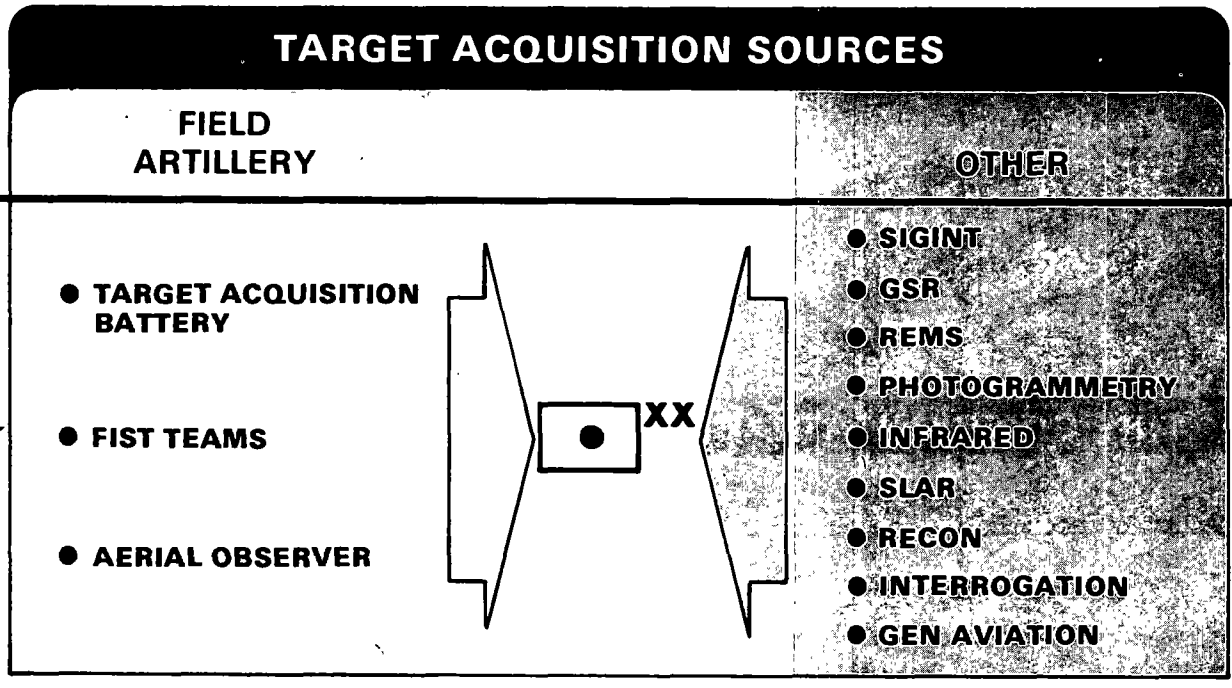


FIELD ARTILLERY

Field artillery is the division commander's principal and most responsive indirect fire weapon system. Divisional field artillery is organized with three medium howitzer battalions and one heavy howitzer battalion. One or more field artillery brigades may be attached to, or placed in support of the division by the corps.

Field artillery can deliver a variety of munitions. It is most often used to suppress or destroy enemy direct and indirect fire weapon systems with a combination of high explosives and improved conventional munitions; smoke munitions are used to obscure the enemy view of divisional units. Field artillery is also used to destroy or render ineffective enemy command control installations or facilities, and logistics and assembly areas. In the near future, field artillery will be able to lay down minefields with scatterable mine munitions, and destroy armored vehicles with precision-guided munitions.

Divisional field artillery can acquire targets from several sources. It has a target acquisition battery that acquires targets by radar and sound and flash ranging. Field artillery fire support teams (FIST) operating with tank and mechanized company teams acquire targets and adjust fires in support of maneuver. Aerial observers, assigned to the division artillery headquarters battery, are used either in general support or in direct support of committed units.



Field artillery is organized for combat by assigning standard missions to its units. Normally, one medium field artillery battalion is placed in *direct support* of each committed brigade; additional field artillery units may *reinforce* direct support battalions while some field artillery is usually kept in *general support* of the force as a whole. When organizing field artillery for combat, the following fundamentals should be kept in mind:

- **In offensive operations the main effort is provided additional support, while in defensive operations the most vulnerable sector is provided additional support.**

■ **Some field artillery should be kept in general support so the division commander can concentrate fires when and where necessary.**

Fire support planning is done at each echelon in the division by fire support elements operating with maneuver battalions, brigades, and in the division tactical and main command posts. Fire support planning may be formal or informal. Formal planning usually results in a written fire support plan.

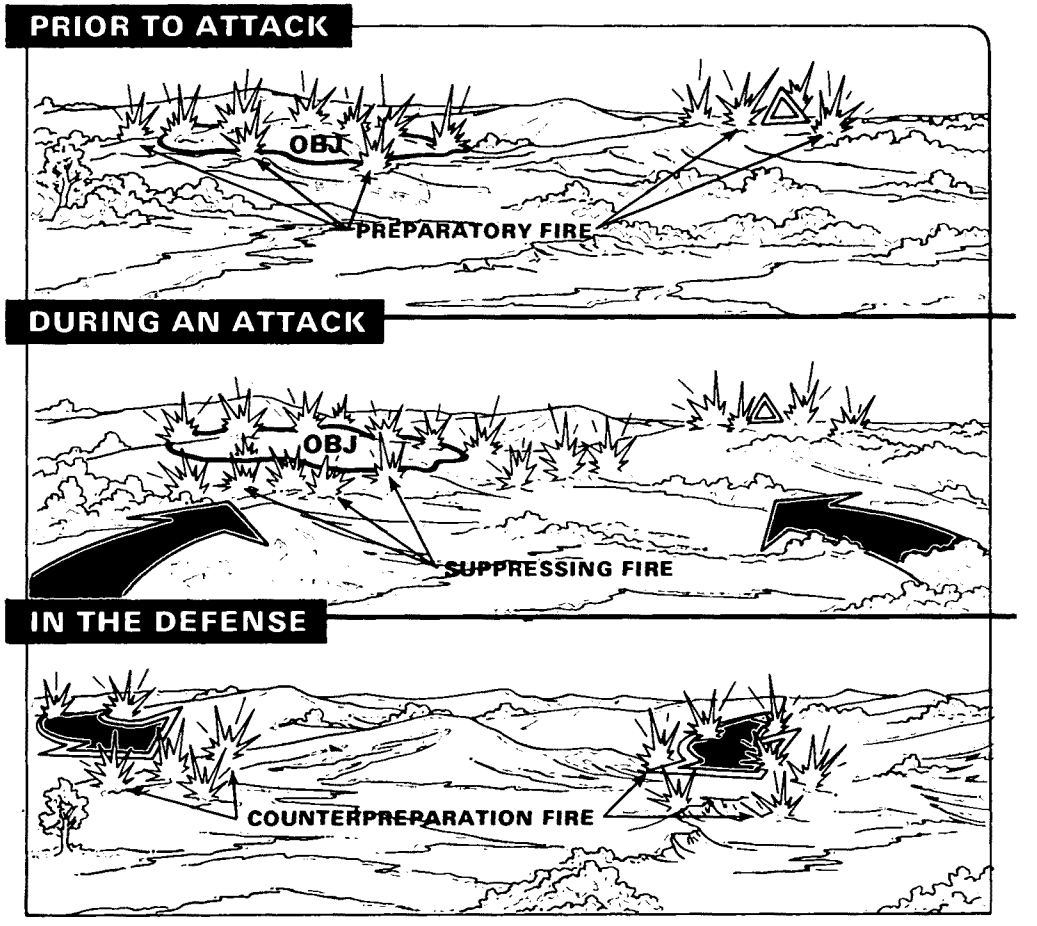
Prior to an attack, a preparation may be fired. Preparatory fires are usually delivered in a prearranged sequence to degrade enemy defenses prior to the arrival of attacking forces. *The decision to fire a preparation is normally made by the division commander.*

During an attack, fires are planned short of the objective to suppress enemy gunners and deny the ability to interfere with maneuver. Fires are also planned on the objective to suppress the enemy and to support assaulting forces, and beyond and to the flank of the objective to protect the force while it prepares to continue operations.

In the defense, fires are planned on likely avenues of approach. A counterpreparation may be fired to offset the potential effect of the enemy preparation, break up the momentum of his attack, and destroy his command control. *It is fired on order of the division commander.*

A planned counterfire program is normally prepared for both offensive and defensive operations. Counterfire is also fired on targets of opportunity.

When active nuclear operations are expected, the division normally develops a nuclear weapon subpackage, a plan for the employment of part of a corps package. Based on the commander's guidance, the subpackage is generally developed by the division fire support element in conjunction with the G3.



★As a general rule, *nuclear fires are planned to destroy enemy nuclear delivery and air defense systems, command control systems, combat service support installations, second echelon regiments, and any reserves of first echelon divisions.* There are two methods for determining nuclear weapons requirements: preclusion-oriented method used to analyze mobile targets and target-oriented method used to analyze fixed targets. **Each is described in FM 6-20, Fire Support in Combined Arms Operations.**

Planning for employment of chemical munitions is similar to that for nuclear weapons. Chemical weapons may be planned on the same targets as nuclear weapons. They may also be planned to protect the division's flanks where appropriate.

The division commander's fire support coordinator is the division artillery commander. He coordinates delivery of field artillery fires through the division artillery tactical operations center and field artillery battalion fire direction centers. A fully automated tactical fire direction system (TACFIRE) will soon link together battalion fire direction centers, the division artillery tactical operations center, and fire support elements. This system will provide for more rapid response to the division's fire support requirements.

CLOSE AIR SUPPORT

USAF tactical aircraft provide close air support to the division. Because of their wide and varied ordnance loads, tactical fighter bombers are very effective against enemy in well-fortified positions. They can destroy hard point targets, tanks, and other armored vehicles quickly and effectively. Close air support aircraft can operate alone, or together with attack helicopters and field artillery. *Close air support must be an integral part of fire support.*

TACPs COORDINATE AIRCRAFT SUPPORT WHEN PREPLANNING IS NOT PERMITTED

Preplanning close air support improves its effectiveness. Ordnance can be matched precisely to target and suppression of enemy air defenses can be well coordinated. Pilots have time to plan the most effective tactics to destroy the target at the time required. When the situation does not permit preplanning, available supporting aircraft make radio contact with one of the Air Force tactical air control parties (TACPs) supporting the division to get a detailed briefing on target location, enemy air defenses, and the location of friendly troops.

Coordination and control of all close air support for the division is done by Air Force TACPs located with the division command post, with brigades, and with tank and mechanized battalion task forces. Forward air controllers from the TACPs, or operating from aircraft, insure that supporting aircraft can accurately identify targets to be struck. *If a forward air controller is not available, Army personnel, usually members of a field artillery fire support team can direct the strike.*

NAVAL GUNFIRE SUPPORT

Sometimes US Navy ships may be in position to support division operations. They are used essentially the same as long-range field artillery and may be employed in direct or general support. When operating in support of the division, the US Navy attaches an air/naval gunfire liaison company to the division. It provides liaison parties to the division command post and brigades, and shore fire control parties to tank and mechanized battalion task forces to plan and control naval gunfire support.

Fire support operations are described in detail in FM 6-20, Fire Support in Combined Arms Operations, and FM 6-20-2, Division Artillery, Field Artillery Brigade, Field Artillery Section (Corps).

AIR DEFENSE ARTILLERY

Divisional air defense artillery protects the division from enemy air attack and, with USAF fighter interceptors, allows the division to operate with minimum interference from enemy aircraft. The division has an air defense battalion organized with two batteries of Chaparral weapon systems and two batteries of Vulcan weapon systems. Shoulder-fired air defense weapon (Redeye) teams are also found in tank, mechanized, and field artillery battalions and with the armored cavalry squadron. The division normally operates under the umbrella of theatre high altitude (Nike-Hercules) air defense weapon systems. A corps medium altitude (Hawk) battalion is usually placed in direct support of the division. **FM 44-90, Air Defense Artillery Employment, Hawk, describes Hawk operations.**

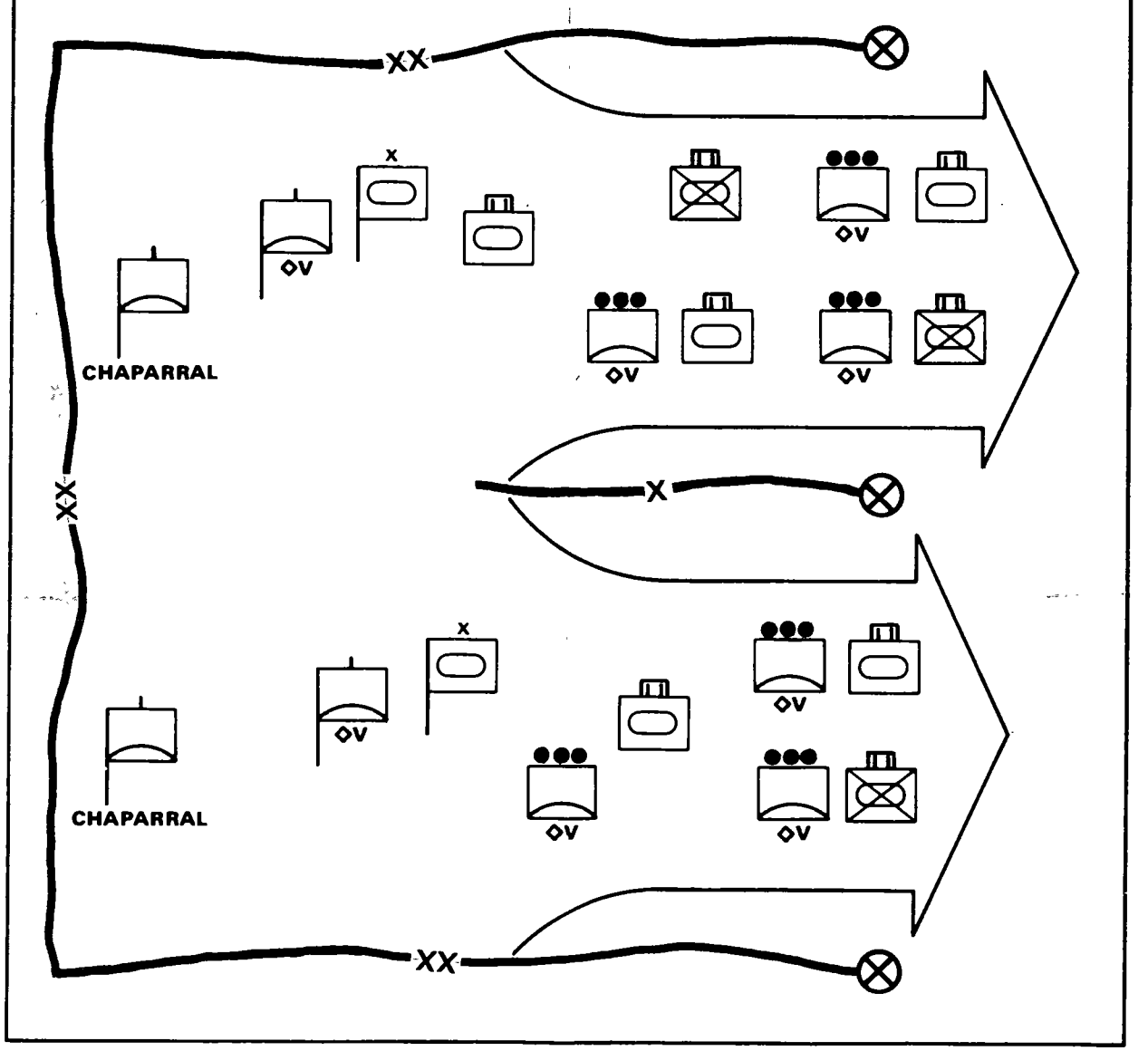
As a general rule, sufficient air defense artillery is not available to adequately defend all divisional units and installations. So, air defense priorities are established by the division commander. The division G3 and air defense battalion commander work together to develop recommended priorities for the division commander to consider.

As with field artillery, air defense units are normally assigned missions of direct support, reinforcing, or general support. Vulcan batteries are often placed in support of brigades while Chaparral batteries are usually employed in general support, defending critical fixed installations.

In a movement to contact, Vulcan platoons may be employed with leading battalion task forces and sometimes with leading company teams.

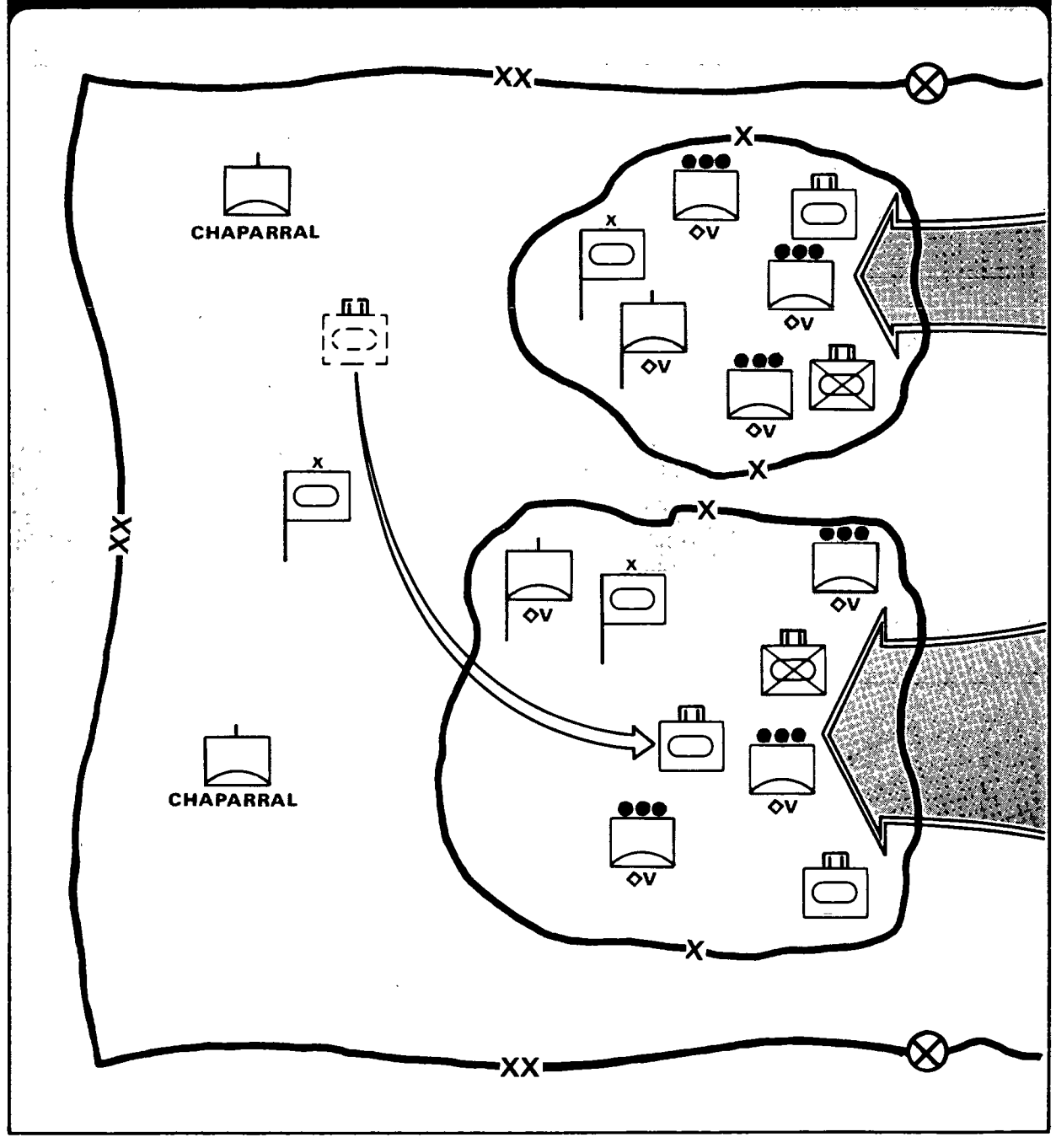
In an attack, air defense weapons must be sited to provide maximum density of air defense over the area where the main attack is to take place.

SITING OF AIR DEFENSE WEAPONS IN AN ATTACK



In the defense, once battle is joined, air defense weapons must move to concentrate maximum density of air defenses over the area where the enemy main effort is being made.

SITING OF AIR DEFENSE WEAPONS IN THE DEFENSE



In both offensive and defensive operations, air defense for command control and service support installations should be provided. To the extent possible, critical points along lines of communications, for example, bridges and sometimes intersections, should be protected. This is particularly true during retrograde and covering force operations. **Chaparral/ Vulcan operations are further described in FM 44-3, Air Defense Artillery Employment-Chaparral/Vulcan.**

Air defense artillery fires, to include fires from small arms and crew-served weapons, are controlled by air defense rules and procedures normally provided to the division by corps.

The division commander has authority to impose more restrictive controls on air defense weapons if the situation requires. The division commander may not reduce the level of control on his own authority without the approval of higher headquarters.

A division airspace management element is located in the tactical operations center of the division main command post. Its purpose is to coordinate use of airspace over the division's operational area.

ENGINEERS

The divisional engineer battalion is organized with a headquarters company, four engineer companies, and a bridge company. Engineers remove and emplace mines and obstacles, build or repair roads, emplace bridges, and help tank and mechanized battalion task forces and field and air defense artillery battalions construct fighting positions. Engineers sometimes fight as infantry, but not routinely. Such occasions are more probable during defensive operations than offensive operations.

★A divisional engineer company is usually placed in direct support of each brigade. Engineer platoons operate with battalion task forces. Divisional engineers operate forward with fighting units. This is particularly true in an advance to contact, during a deliberate attack against fortified positions, or when preparing for defensive operations. The bridge company has an armored vehicle launched bridge (AVLB) platoon. AVLBs are used to span short gaps, less than 18 meters wide. Since tank battalions have their own armored vehicle launched bridges, the AVLB platoon most often supports task forces organized around mechanized headquarters. The bridge company also has a rafting platoon, equipped with either mobile assault bridges or float bridges. However, there is insufficient divisional bridging to support large scale river crossing operations; so when these operations are necessary, additional bridging is required from corps engineer units. **River Crossing Operations are further described in FM 90-13.**

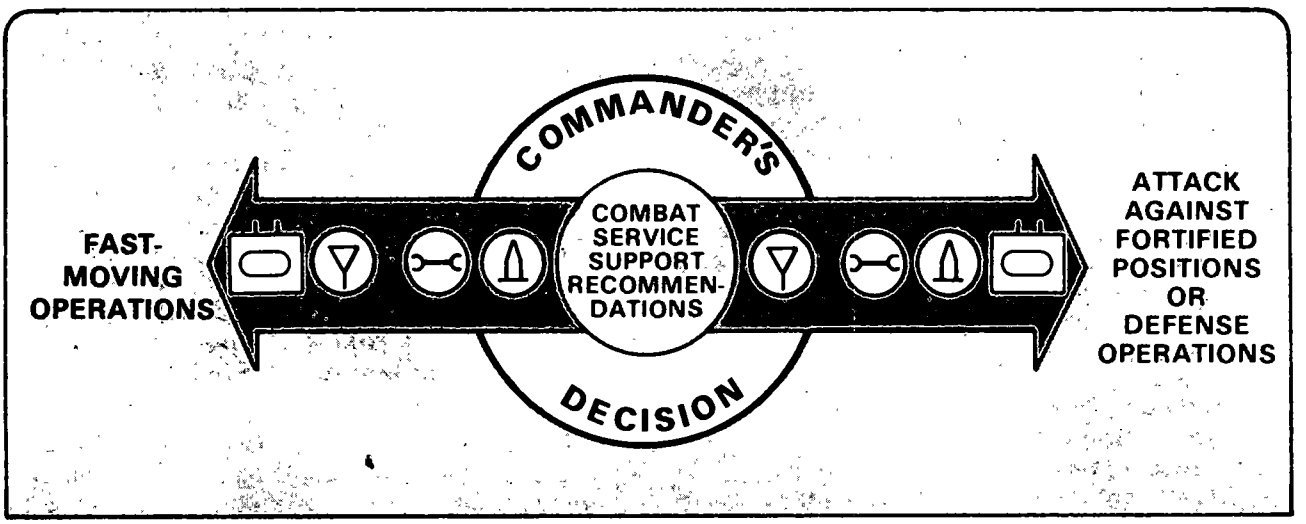
The division commander establishes engineer work priorities. The G3 and division engineer battalion commander work together to develop work priority recommendations for the commander to consider. In offensive operations, obstacle reduction, bridging, and maintenance of supply routes are most important. In defensive operations, obstacle construction, minefield emplacement, and fighting position construction are most important. Here also, maintenance of supply routes must be accomplished. **FM 90-7, Obstacles, describes in detail obstacle reduction and construction. Other engineer operations are described in FM 5-100, Engineer Combat Operations.**

COMBAT SERVICE SUPPORT

The division support command provides fuel, ammunition, and maintenance, replaces crews and equipment lost in battle, and treats and evacuates wounded.

The division commander establishes priorities for combat service support. The G1, G4, and division support command commander work together to provide combat service support recommendations to the division commander. During fast-moving operations, for example, during an exploitation or pursuit, fuel may be most important. During an attack against a well-fortified

position or during a defensive operation when heavy fighting is expected, ammunition and maintenance support may be most important.



Much of the division support command operates in brigade support areas since brigades have no combat service support units of their own. Division support command units most often found in the brigade support area are a maintenance company, a forward supply section from the supply and transportation battalion, a medical company, and maintenance support teams from the transportation aircraft maintenance company.

Division support command operations in the brigade support area are controlled by a forward area support coordinating officer (FASCO). He works with the brigade executive officer and S4 to see that the needs of the brigade are met. Combat service support operations are described in detail in Chapter 6, *Combat Service Support Operations.*

COMMAND CONTROL

To direct the battle, the division commander must move where he can best control the operation. In an attack, this is most often near the leading brigade. In the defense, the division commander operates with the forces defending against the enemy's main effort. The division commander usually establishes a tactical command post and a main command post to control combat operations. Combat service support operations are controlled in the division materiel management center (MMC) described in Chapter 6, *Combat Service Support Operations.*

TACTICAL COMMAND POST

The division commander most often directs the battle from a small mobile tactical command post, located forward and staffed with selected assistants. The division commander organizes the tactical command post in the manner that works best for him. However, it is normal to find the G3, USAF air liaison officer, and the division artillery commander or his assistant fire support coordinator operating from the tactical command post. Other officers or their assistants may also operate from the tactical command post from time to time.

When for some reason it is necessary to operate with leading battalion task forces, the division commander goes forward with a small command group in one or two vehicles. Again, he takes those assistants who can best

help him control the battle, usually the G3 or his assistant, the air liaison officer, and the fire support officer.

DIVISION MAIN COMMAND POST

The division main command post is located in the division rear area, normally beyond the range of enemy field artillery. It too is organized as the commander may direct. It is normal to organize the main command post with: G1, G3, and G4 elements, the G2 section and combat electronic warfare and intelligence battalion elements, air defense artillery, aviation, fire support, chemical, biological, nuclear staff support elements, and a tactical air control party element. It may be supervised by the chief of staff.

The main command post performs such duties as the division commander requires. It is primarily a communication and information center, although future operations are normally planned there.

COMMUNICATIONS

The division communicates using an integrated system of secure and non-secure equipment consisting of FM and AM voice, multichannel systems, messenger, radio teletypewriter (RATT), and radio wire integration (RWI). The system is used to transmit information, distribute intelligence, and control fire and maneuver. The divisional signal battalion has a variety of communications equipment, as do all divisional units. Divisional communication equipment, however, is extremely vulnerable to enemy countermeasures.

Tight communications discipline and command control alternatives must be routinely practiced, and command post electronic signatures must be reduced.

As in the case of electronic surveillance and target acquisition equipment, *ECCM must be used to protect divisional communications equipment from enemy interception, deception, and jamming.*

Command control operations are described in detail in Chapter 7, *Command Control of Combat Operations,* **FM 11-50, Communications Within the Division, describes divisional communications nets and ECCM in detail.**

CHAPTER 4

Offensive Operations

The primary purpose of offensive operations is to destroy the enemy by breaking through his defensive system and driving rapidly and violently into his rear to destroy artillery, air defense, command posts, logistic support, and command control systems.

From time to time, offensive operations may also be conducted to secure key terrain, to gain information about enemy strength and dispositions, and occasionally to deceive the enemy. *Even though defensive operations are often necessary and sometimes preferred, as a general rule offensive action is necessary to achieve decisive results.*

Since the enemy cannot be equally strong everywhere, it is usually possible to concentrate sufficient combat power to outweigh him at a place of the attacking commander's choosing. Even during defensive operations, the commander should never miss an opportunity to attack.

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There are six fundamentals that guide commanders in the conduct of offensive operations. Although the application of each may vary from time to time, they are the same for any offensive operation. They are:

1. See the battlefield.
2. Concentrate overwhelming combat power.
3. Suppress enemy defensive fires.
4. Shock, overwhelm, and destroy the enemy.
5. Attack the enemy rear.
6. Provide continuous mobile support.

1

See the Battlefield. To be successful in offensive operations, it is first necessary to know the enemy, his organization for defense, the capabilities of his weapon systems, and how he customarily disposes his forces on the ground.

Battalion task force and smaller unit commanders must understand how the enemy normally defends from a series of strongpoints in depth, attempting to draw the attacker into fire traps. They must also understand how the defending enemy holds tanks in reserve, poised for strong counter-attacks.

The division commander and his staff must know much more. They must understand how enemy field and air defense artillery supports the defense, how enemy divisions, regiments, and battalions are controlled, how combat service support is provided, and where tank reserves of an enemy division or army are apt to be. These are the systems the division must destroy or suppress so battalion task forces can maneuver to bypass or destroy the enemy's system of strongpoints and break through his forward defenses.

While much of the information he needs may be immediately available, the division commander must tell his information-gathering agencies what else he needs to know. In offensive operations, it is most important for the commander to know where the enemy is weak or can be weakened. In order to obtain this information, it is sometimes necessary to conduct separate operations, for example, a reconnaissance in force.

The division commander and his subordinate commanders should also know, to the maximum extent possible, the terrain over which the division will fight.

In the attack, the battalion task force commander can seldom see the terrain or the enemy beyond the terrain feature to his immediate front. The division commander has means available that can see terrain and enemy further away and provide the information gained thereby to brigades and battalion task forces.

2

Concentrate Overwhelming Combat Power. While enemy weaknesses may be known from the outset, most attacks begin with an advance to contact, often on a broad front. Once contact is made and an area where the enemy is weak or can be weakened is found, it is necessary to move quickly to concentrate superior forces in that area. Tanks and mechanized forces are concentrated on a narrow front to break through enemy forward defenses. Field and air defense artillery concentrate their fires to protect advancing tank and mechanized forces at the point where the main effort is to go. Engineers concentrate to assist in breeching and clearing minefields and other obstacles, such as barriers or fortifications which can slow or stop advancing tanks and mechanized infantry. Electronic support measures are concentrated to locate enemy

emitters so they can be attacked by fire or jammed by electronic countermeasures (ECM). These actions will disrupt enemy weapon and command control systems.

Mobility of armored and mechanized forces allows them to move rapidly from one place to another and fight on arrival. However, moving to concentrate means forces must be thinned out elsewhere and that involves some risk. So, it is necessary to deceive the enemy as to the division's intentions, the location of its main effort, and the strength of its units. The enemy's ability to collect information can be degraded by good use of terrain, camouflage, smoke, movement during periods of reduced visibility, and by good use of electronic countermeasures and electronic counter-countermeasures (ECCM).

3

Suppress Enemy Defensive Fires. Concentrated forces are vulnerable to enemy fires. So, it is necessary to suppress enemy weapons and to obscure the vision of enemy gunners who can interfere with advancing tanks and mechanized infantry and with attack helicopter and offensive air support operations.

While suppression of enemy direct fires is important to the division commander, gunners of direct-fire weapons are usually suppressed by battalion task force weapons and direct support field artillery. More important to the division commander is suppression of enemy field artillery which can slow or stop the division attack and interfere with command post and combat service support operations. Field artillery counterfire and sometimes USAF offensive air support sorties are concentrated in sufficient numbers and are of adequate duration to substantially degrade the enemy's field artillery capability of interfering with the main effort.

For attack helicopters and USAF aircraft to operate, enemy air defense systems must be suppressed. Electronic support measures and other target acquisition means can be used to locate enemy air defense weapons. Field artillery, and sometimes electronic countermeasures, can be used to suppress or disrupt those air defenses. Attack helicopters and offensive air support aircraft can also be used, although this is a less desirable solution.

Of equal importance to suppression of FA and ADA is suppression of enemy electronic warfare systems which can disrupt divisional command control. Therefore, suppression of enemy equipment that can locate divisional emitters, and of enemy jammers, must also be provided for.

4

Shock, Overwhelm, and Destroy the Enemy. Once an enemy weak point has been found, or one has been created, the division pushes through with maximum speed, surprise, and violence. Prepared positions are bypassed when possible and cleared only when necessary. The advance of the entire division must not be halted when leading battalion task forces are temporarily stopped. Attacking units that become stalled or disorganized are bypassed by fresh units. Forces are shifted as necessary to exploit enemy weaknesses as they are revealed. Hasty attacks are conducted to overcome enemy resistance. Deliberate attacks are conducted only when necessary, for they take time to plan and organize and are usually costly in execution. Too much time spent planning and organizing a deliberate attack can result in loss of the initiative.

5

Attack the Enemy Rear. Once enemy forward defenses are penetrated, the division must drive relentlessly towards the enemy rear to destroy field artillery, air defenses, command control, and logistics installations. As the enemy defense begins to give way, success must be exploited viciously. Disorganized forces are vigorously pursued until destroyed or captured, and the enemy can no longer resist.

6

Provide Continuous Mobile Support. Continuous mobile support is necessary for tank and mechanized forces to advance. Field and air defense artillery, engineers, and signal units must carefully plan movement to keep pace with maneuver units. Fuel and ammunition expenditures are apt to be high, but lack of fuel and ammunition must not be allowed to slow or stop the advance. Inoperable combat vehicles must be repaired as far forward as possible and quickly returned to the battle. Those that cannot be repaired forward must be immediately replaced.

The deeper the division advances, the more difficult it becomes to provide support and keep lines of communication open. Combat service support commanders must be as aggressive in supporting as combat commanders are in destroying—and they must all work together to get the job done.

HOW THE ENEMY DEFENDS

Threat doctrine prescribes offense as the principal combat operation and views defense as necessary at times, but always temporary in nature. In general, Threat commanders resort to defense only when necessary to accomplish one or a combination of the following actions:

- Economize force,
- Gain time to concentrate forces for offensive operations,
- Repel a stronger force,
- Consolidate captured objectives, and
- Cover a withdrawal.

Threat doctrine also prescribes motorized rifle units as best suited for the conduct of defensive operations. The tank army, for example, defends as a first echelon unit only when necessary and then only temporarily. A defending first echelon tank army is replaced by a combined arms army at the earliest possible time.

HASTY DEFENSE

The Threat perceives the hasty defense, assumed for periods of short duration, as the most common form of defense. The hasty defense provides for rapid transition to offensive operations or to a well-prepared deliberate defense. This form of defense is normally employed when units on the move are forced to stop in place. Frontages are initially unchanged from those prior to the halt. Forces in contact deploy as in the first echelon of the main defense belt of a deliberate defense. Strongpoints are established on the most defensible terrain. As time and forces permit, the enemy constitutes a second echelon of defense and continues to improve the defensive system as in a deliberate defense.

DELIBERATE DEFENSE

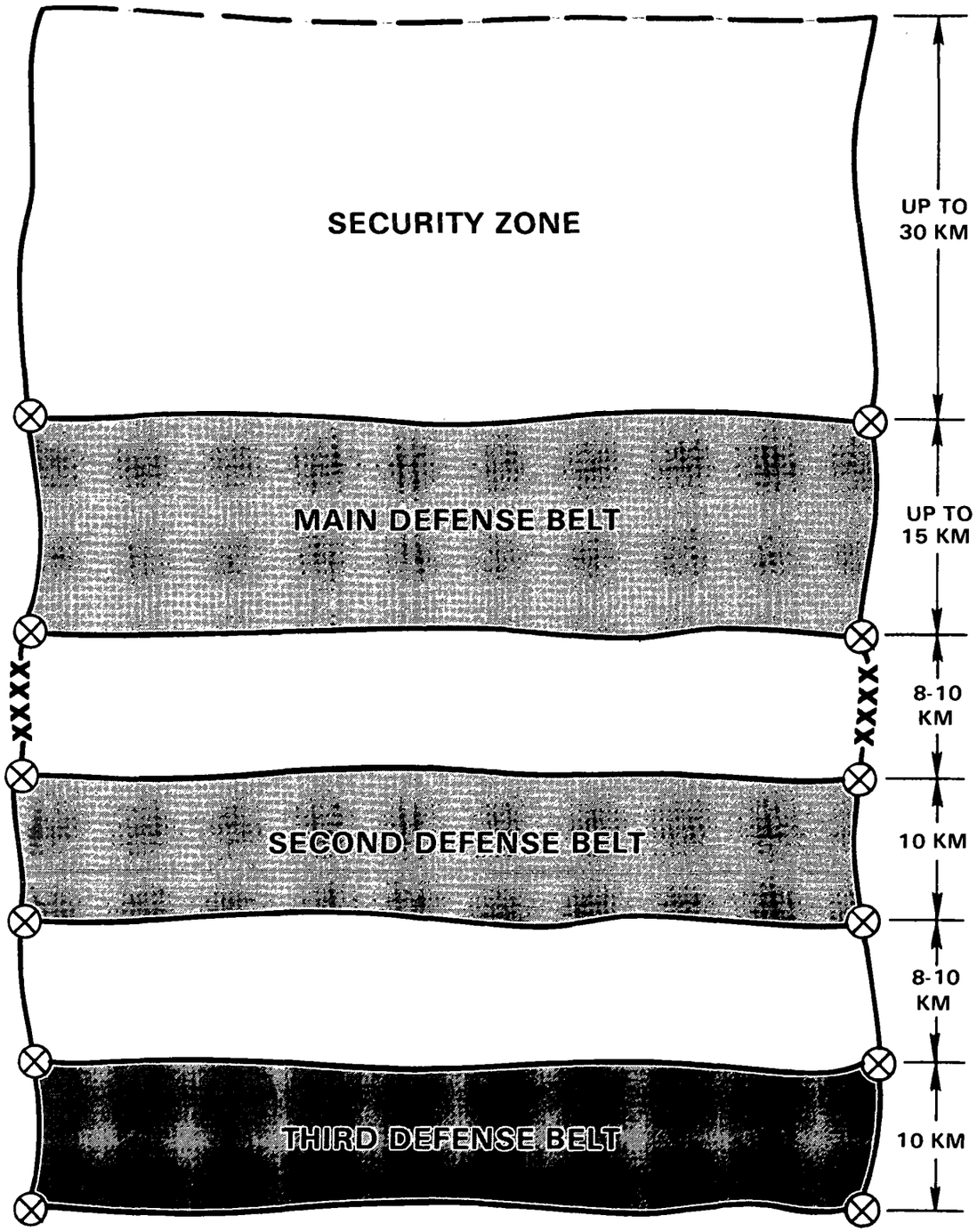
When an enemy advance is halted for more than a few hours, a deliberate defense is organized in successive belts and in echelons designed to provide depth to the defensive system. A deliberate defense consists of, as a minimum, a security zone and a main defense belt. Second and third defense belts are normally organized at echelons above division when time permits.

Each defense belt consists of a series of mutually supporting company and battalion strongpoints echeloned in depth. Strong, mobile, tank-heavy reserves are retained as a counterattack force.

Obstacles are constructed forward of and within each defense belt to impede the advance of attacking forces and to canalize them into preplanned killing zones.

Combat formations, fronts, and depths of defending forces are determined by terrain, enemy, mission, forces, and available fire support.

THREAT DEFENSE BELT CONCEPT
(NOT TO SCALE)



MOTORIZED RIFLE DIVISION IN THE DEFENSE

The *security zone* normally extends up to 30 kilometers forward of the main defense belt. Forces in the security zone try to halt or delay the attacker by forcing him to deploy before reaching the main defense belt.

Combined arms army second echelon motorized rifle units and tank reserves, reinforced with artillery and engineer support, establish the security zone. Forces operating in the security zone fight as reinforced battalion or company-size units and are normally the only forces used to initially delay the enemy and cover preparation of main and successive defense belts. Following the conduct of successive delaying actions, security zone forces withdraw through the main defense belt and occupy prepared positions in the second defense belt.

Motorized rifle divisions in the main defense belt establish general outposts in the security zone as much as 15 kilometers in front of the main defense belt, employing approximately one motorized rifle battalion per 8 to 12 kilometers of front. General outpost forces will normally come from the divisional second echelon motorized rifle regiment.

First echelon regiments in the main defense belt establish combat outposts in the security zone 3 to 5 kilometers to the front of forward battalions. Regimental combat outposts normally consist of a rifle company reinforced by antitank weapons, artillery, tanks, and engineers. They protect forces in the main defense belt against surprise attack, conduct counterreconnaissance missions, and conduct counterfire operations against the attacker's field artillery. They also attempt to deceive the enemy as to the location of the main defense belt and to prevent the attacker from clearing obstacles.

The *main defense belt* is the backbone of the defense and is designed to stop and destroy attacking forces. It can be up to 15 kilometers deep. Every effort is made to take advantage of the natural defensive strength of the terrain.

Normally, motorized rifle divisions are employed in the main defense belt and are usually assigned a front of 20 to 30 kilometers and an approximate depth of 15 kilometers. The division defense is normally organized into two echelons, with two motorized rifle regiments in the first echelon and one in the second echelon. First echelon motorized rifle regiments defend the first 8 to 10 kilometers of the division zone. The second echelon motorized rifle regiment organizes battalion defense areas across the rear of the division zone approximately 10 kilometers from the forward trace of the main defense belt. Second echelon battalions are positioned to protect key terrain and to block penetrations.

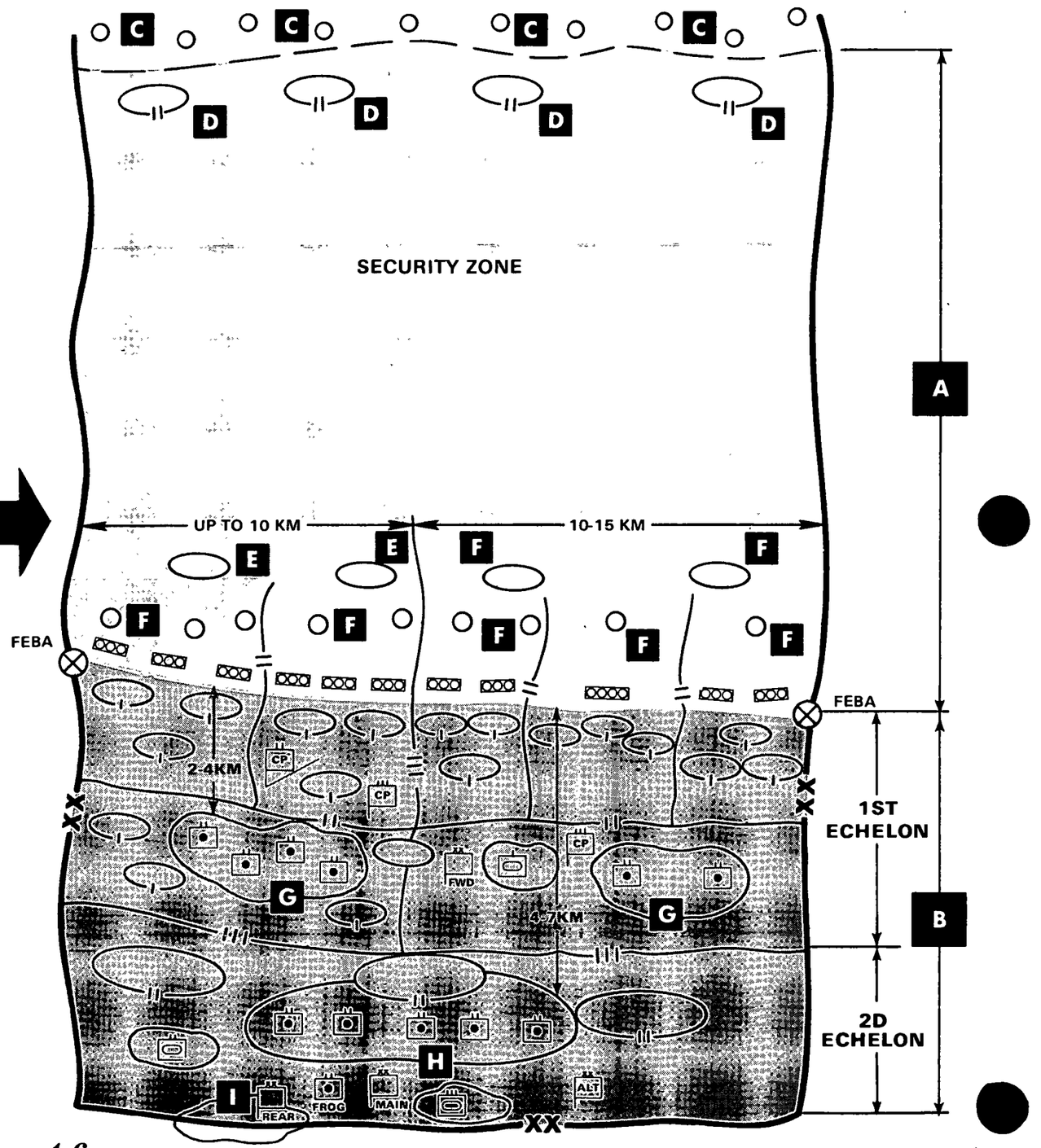
The medium tank regiment and independent tank battalions are normally retained under division control as a reserve. They are usually located to the rear of the second echelon motorized rifle regiment. Elements of the tank regiment (two or three companies) may be used to reinforce motorized rifle regiments.

MOTORIZED RIFLE DIVISION IN THE DEFENSE

LEGEND

- A — SECURITY ZONE
- B — MAIN DEFENSE BELT
- C — RECONNAISSANCE ELEMENTS
- D — FORWARD DETACHMENTS
- E — GENERAL OUTPOSTS
- F — COMBAT OUTPOSTS
- G — REGIMENTAL ARTILLERY GROUP
- H — DIVISIONAL ARTILLERY GROUP
- I — DIVISION DEPOT AREA

NOTE: LEFT SECTOR ASTRIDE A MAIN AVENUE OF APPROACH.



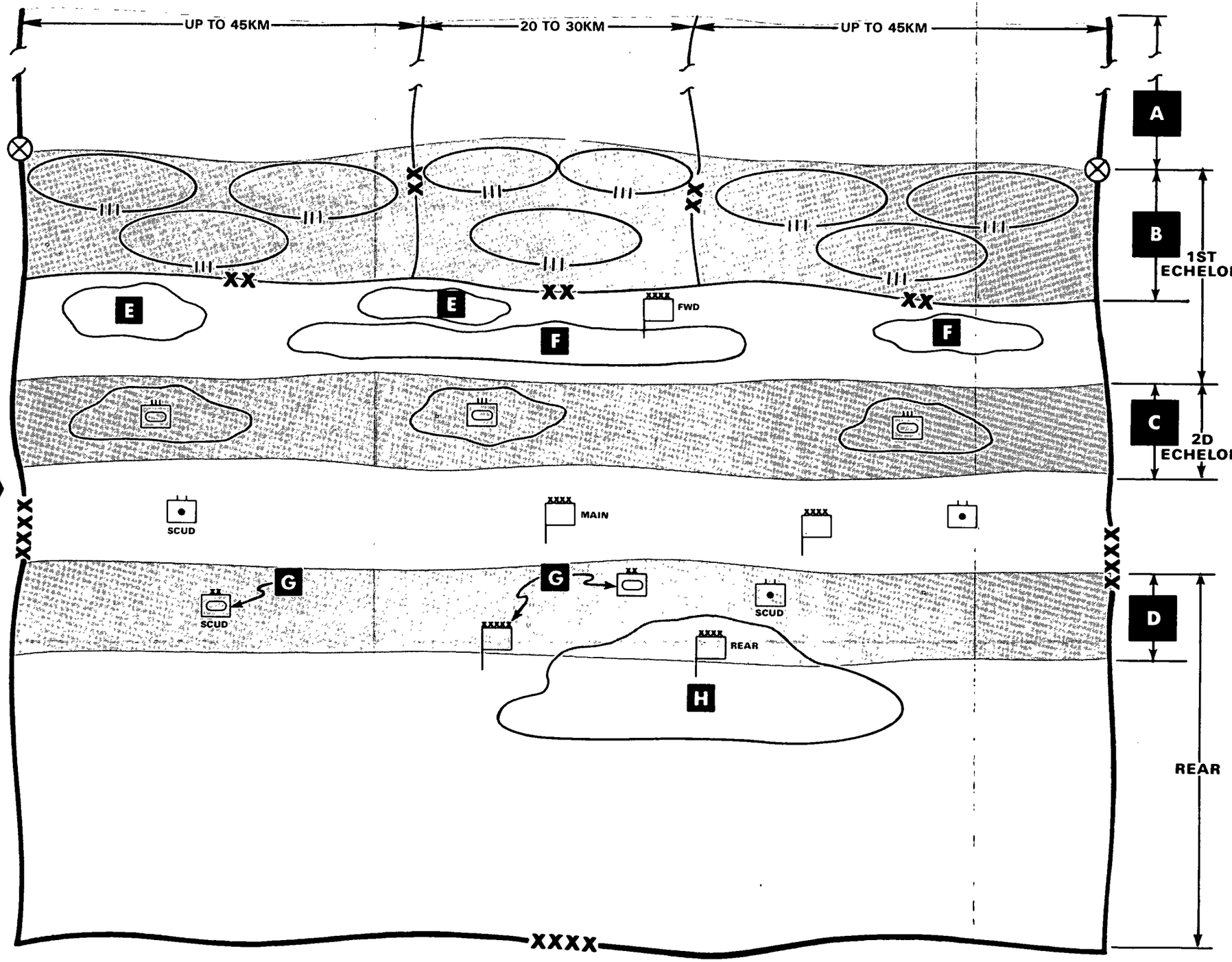
The *second defense belt* is established and defended by army second echelon motorized rifle divisions and reserves, to include tank divisions which deploy to prepared positions in the second defense belt after completing security zone missions.

This belt is up to 10 kilometers deep and is located 8 to 10 kilometers to the rear of the main defense belt. If the enemy penetrates the main defense belt, forces in the second belt fight to contain him until counterattacks from the third defense belt can be launched.

The *third defense belt* is located 8 to 10 kilometers to the rear of the second defense belt. This belt normally consists of elements of a tank army, reserves available to the *front,* and possibly a combined arms army dispersed over a very wide zone.

The mission of forces in the third defense belt is to counterattack. In the event a counterattack cannot be mounted, they occupy prepared positions and attempt to stop the enemy's advance.

COMBINED ARMS ARMY IN THE DEFENSE



LEGEND

- **B** SECURITY ZONE
- **B** MAIN DEFENSE BELT
- **C** SECOND DEFENSE BELT
- **D** THIRD DEFENSE BELT
- **F** ADVANCED ARMY SUPPLY BASE
- **E** ARMY ARTILLERY GROUP— UP TO FOUR BATTALIONS
- **G** FRONT ASSETS
- **H** ARMY SUPPLY BASE

COMBINED ARMS ARMY IN THE DEFENSE

IN THE DELIBERATE DEFENSE, EVERY EFFORT IS MADE TO STOP THE ENEMY FORWARD OF THE MAIN DEFENSE BELT

The defense begins when attacking units make contact with outposts in the security zone. Security outposts keep attacking units under continuous surveillance and take them under fire with mortars, small arms, machineguns, tanks, and antitank weapons. Every effort is made to deceive the attacker as to the location of the main defense belt and to cause him to mass his forces. As security outposts are forced to withdraw, artillery fires are placed on the attacker to cover the withdrawal.

Fires from the main defense belt are withheld until the attacker reaches a point where maximum effectiveness can be obtained by the defender's weapons. At this time, close-in artillery and mortar barrages begin. The attacker is also brought under antitank and artillery direct fire while negotiating antipersonnel and antitank obstacles. Tanks are the primary target. The enemy employs all weapons that can damage or destroy tanks. Machinegun and small arms fire is used to separate dismounted infantry from tanks.

Defending battalions remain in place until overrun or ordered to withdraw by higher headquarters; however, occupation of alternate and supplemental positions within the defense area is permissible. The enemy expects penetrations in gaps between units and intends to accomplish maximum killing in these areas. Lightly engaged units adjacent to threatened areas are employed to fire into flanks of attacking forces. Penetrations of forward positions of battalion defense areas are blocked by the second echelon. Local counterattacks are employed by the battalion or regiment to restore its part of the main defensive area.

If enemy penetration of the main defense belt cannot be stopped by local counterattacks, the combined arms army normally launches a counterattack. The counterattack force consists of the tank division and available elements of the engaged motorized rifle division. The counterattack force is supported by non-divisional reserves of tanks and other supporting weapons. If the combined arms army counterattack fails to eject the enemy from the main defense belt,

remaining elements of engaged divisions withdraw to take up positions in the second defense belt. A counterattack is then mounted by the *front* second echelon tank army.

FIRE SUPPORT

Threat artillery is organized for combat at army, division, and regimental level by combining organic units with assets allocated from higher headquarters to form groups. As previously described, regimental artillery groups (RAG) are normally located 2 to 4 kilometers from the forward edge of the main defense belt and consist of two to four battalions of 122-mm guns and 152-mm gun-howitzers. Division artillery groups (DAG) are positioned 4 to 7 kilometers from the forward edge of the main defense belt and consist of two to four battalions of 130-mm guns and 152-mm gun-howitzers. The DAG may also include the divisional multiple rocket launcher battalion. The army artillery group (AAG), when formed, is composed of four battalions of mixed caliber and is normally located well forward in the army sector as previously described. Each of the three types of artillery groups may be altered during an operation.

ALTHOUGH THREAT ARTILLERY IS PRIMARILY ORGANIZED IN ARMY, DIVISION, AND REGIMENTAL GROUPS, THE COMPOSITION OF EACH MAY CHANGE DURING A COMBAT OPERATION

In addition to the artillery support available from artillery groups, forward detachments and outposts will normally have accompanying artillery in the form of 122-mm self-propelled (SP) batteries. Motorized rifle battalions along the FEBA have organic batteries of 120-mm mortars and may be allotted up to a battalion of self-propelled or towed artillery for use in a direct fire role against tanks, armored personnel carriers (APC), and antitank guided missiles (ATGM).

AIR DEFENSE

As described in chapter 2, Threat forces deploy mobile surface-to-air missiles (SAM) and conventional antiaircraft (AA) guns for air defense.

Zone coverage is provided by SAM systems, while point protection is provided by divisional and regimental light air defense weapons.

Regimental air defense weapons are employed in direct support of maneuver battalions. They are deployed well forward and their primary targets are the attacker's air support aircraft and attack helicopters.

COMBAT SERVICE SUPPORT

Combat service support installations generally are well dispersed, camouflaged, and away from likely nuclear targets. Supplies are placed underground or dug in whenever possible.

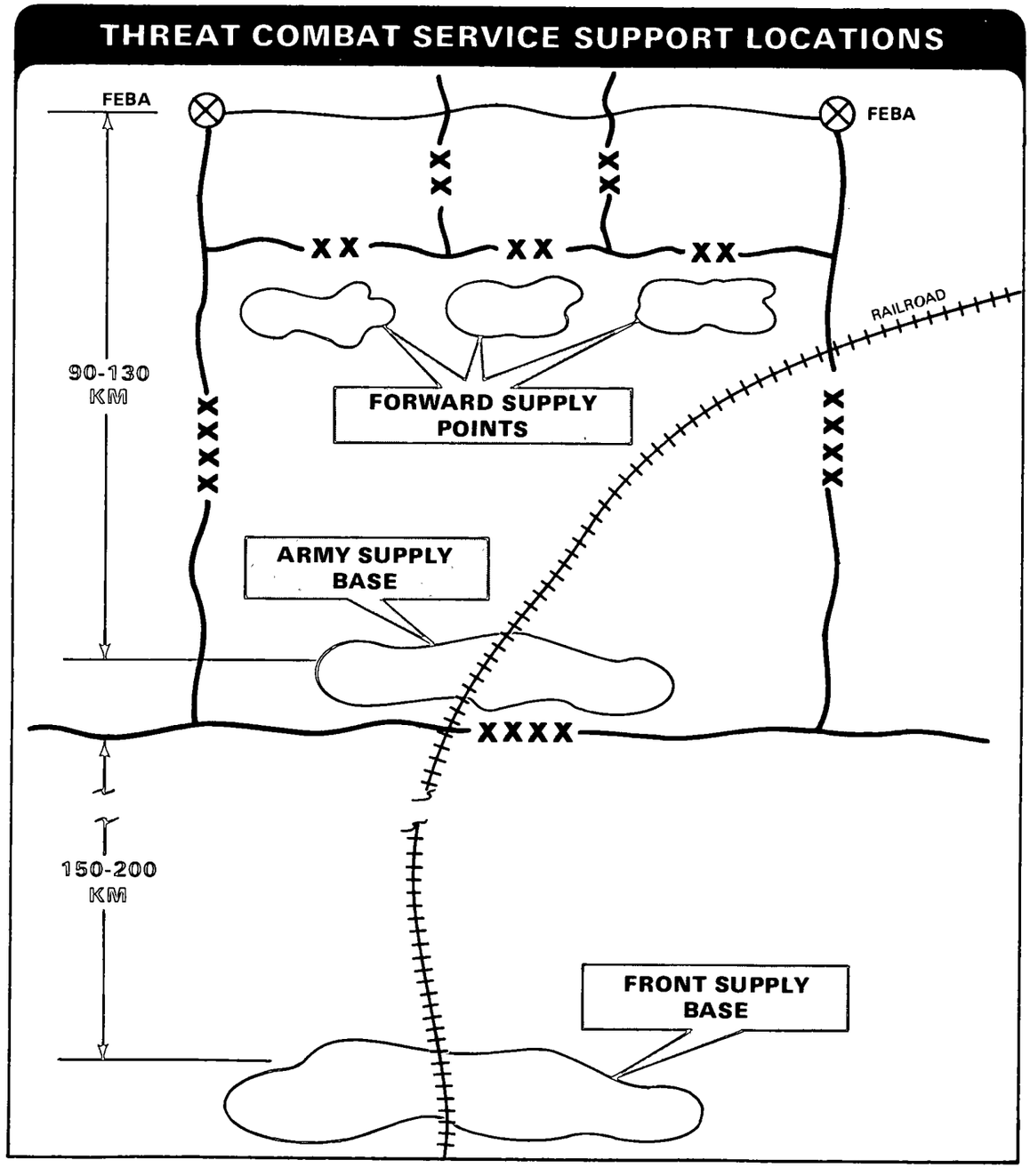
The *front* supply base is usually located near rail junctions. Depending on the tactical situation and available rail facilities, it is usually about 150 to 200 kilometers from the rear boundary of subordinate armies. This base is generally an extensive complex made up of branch depots for each of the services. The *front* supply base also contains medical installations, workshops, and maintenance units. Fuel and ammunition storage are well separated from other stores.

The army supply base is similar to that of the *front,* but smaller. It is also located beside rail lines, if possible, and consists of appropriate branch depots. Its distance behind the FEBA is generally about 90 to 130 kilometers. Bulk fuels are broken down into drums and cans at this level.

The army usually establishes forward supply points near the army forward boundary of the rear area (immediately behind its first echelon divisions), generally on the basis of one per each first echelon division.

The division depot area is usually located near a road junction or along a main road. Supplies are generally kept on wheels, but dumps on the ground may be established for major operations.

Rear installations of second echelon regiments are located from 16 to 20 kilometers from the FEBA. All rear installations of second echelon divisions are located 40 to 50 kilometers from the FEBA.



The regimental supply point is usually located along a supply road leading from the division depot. Its facilities and functions are similar to those of divisions, though on a much smaller scale. Supplies are maintained on trucks.

COMMAND CONTROL

Command control is exercised through a series of command posts. Commanders of a combined arms army and subordinate divisions normally control operations from forward, main, and rear command posts. Alternate command posts are also designated. Lower echelon commanders normally control operations from one or two command posts.

The commander decides which command posts are to be constituted and the physical location of each. Normally, division and lower level command posts are located in APCs, tanks, or special command vehicles and frequently change location for added security. Army and *front* command posts are normally more static and are often deployed in tentage or abandoned buildings. All headquarters have a small organic element which provides local defense and traffic control. Command post air defense receives a high priority.

First echelon divisions normally establish forward command posts near the rear of the most threatened first echelon regimental sector, usually within 5 kilometers of the forward edge of the main defense belt. Division main and alternate command posts are normally located an additional 5 to 10 kilometers to the rear with lateral dispersion of some 5 kilometers. The division rear command post is normally collocated with logistic elements and may be from 10 to 30 kilometers to the rear of the FEBA. Combined arms army main and alternate command posts are located within the second defense belt.

A system of radio, wire, and liaison is used to communicate. Radio equipment of the alternate command post, however, is used only to monitor activities at forward and main command posts.

PREPARING FOR OFFENSIVE OPERATIONS

The division prepares for offensive operations generally as described in Chapter 3, *Preparation for Combat Operations*. That is, as information about the enemy and terrain is gathered, the commander estimates the situation and the staff provides appraisals. The commander then decides on and announces his concept of the operation to his staff and subordinate units. Necessary orders are issued to implement the commander's decision.

The commander should describe his concept of the operation in sufficient detail for his staff and subordinate commanders to understand exactly what it is they are supposed to do. As a minimum, he should specify:

- time and place of the attack,
- scheme of maneuver for the force as a whole,
- task organization, and
- control measures.

Time of the attack may be provided by a higher headquarters. If the commander is free to choose the time, he must consider time required to reconnoiter the terrain, to gather additional information about the enemy if needed, and time required by subordinate units to prepare.

Often when up against an enemy in strength, it may be best to attack under cover of darkness or during other periods of limited visibility—fog, snow, or rain—even though control may be somewhat more difficult.

It must be remembered that time used by the division to prepare to attack is time provided to the enemy to prepare to defend, or even to attack the division. If too much time is taken in preparation, the opportunity to attack may be lost.

The *place* to attack is that location which offers the greatest likelihood of success. Attacks are aimed at weak points in the enemy defense. If no weak point can be found,

then one must be created. This can be done by fire, fire and maneuver, or deception such as a feint or demonstration to cause the enemy to shift his forces or concentrate his attack elsewhere.

TERRAIN ALSO INFLUENCES PLACE OF ATTACK

Terrain also influences place of attack. Battalion task forces and company teams advance from one covered and concealed position to the next. The division moves along lines of communication that provide for rapid advance of all the combined arms and supporting services. While movement of tank and mechanized task forces is important, forward movement of field and air defense artillery, engineers, and supply trains is also important.

Terrain chosen for the main effort should allow for rapid movement into the enemy rear. Normally, terrain that will hinder a rapid advance should be identified and avoided. Occasionally, an attack on less suitable terrain may be desirable if the enemy can be surprised. It is most desirable for the commander to personally reconnoiter terrain, particularly where the main effort is to go in.

SCHEME OF MANEUVER

The commander's intentions and the best direction of approach to the enemy will determine the scheme of maneuver used by the division. The commander's intent may vary from time to time but normally can be described in one of four ways:

1. overrun and destroy a weaker enemy in position,
2. fix or hold an enemy force in position,
3. rupture and pass through enemy defenses to secure a deep objective, or
4. pass around enemy main defenses to strike him from flanks and rear—causing him to fight in an unexpected direction or perhaps two directions.

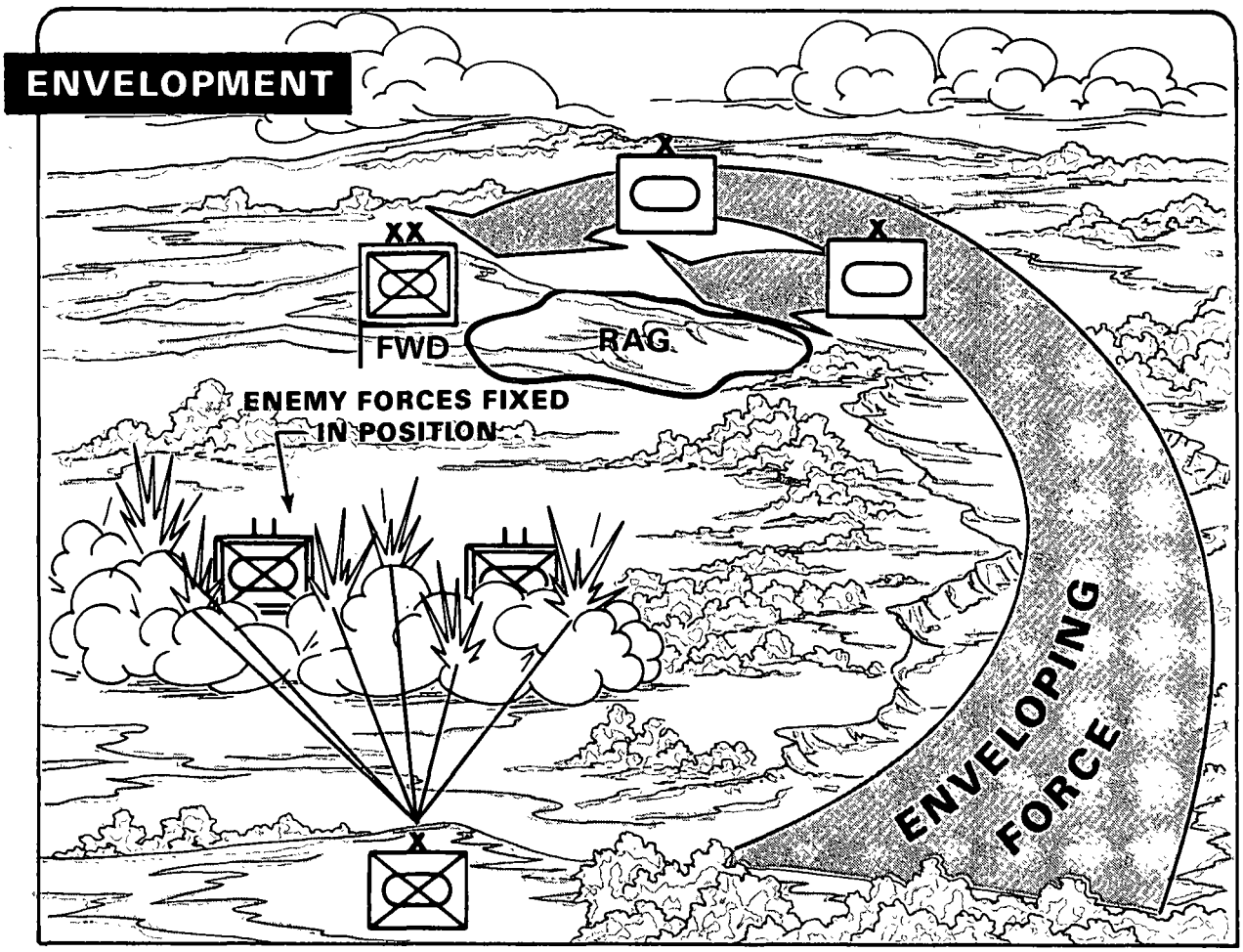
Enemy positions can be approached in two ways—from the front, or from the flank or rear. There are, therefore, two ways to maneuver—penetrate or envelop.

In the attack, subordinate units may maneuver differently. A division attack may be conducted with one brigade fixing enemy units in position, another brigade passing around those positions to strike deep, while a third brigade is poised to move through the hole created. Higher commanders seldom prescribe the form of maneuver to be used by subordinate units, although this may be sometimes necessary to concentrate forces in a specific area, and to insure that operations of adjacent forces are complementary.

In an *envelopment,* the attacker passes around enemy strength to strike on a lightly guarded flank or into the rear of the enemy defense. If no open flank or gap in the enemy defense system exists, gaps can be created by fires, fire and maneuver, or a deception operation. Nuclear weapons are particularly useful for creating gaps, while chemical weapons can be used to protect the flanks of the enveloping force.

Success often depends on speed and on preventing the enemy from reacting in time with sufficient force to slow the attack. It may be necessary to fix the enemy in place, from the front by a supporting attack, or by some other means that will delay enemy reaction to the enveloping force. The enemy is then forced to fight in several directions or abandon his positions.

Envelopment is usually the preferred form of maneuver since striking from several directions at once, or from unexpected directions, forces the enemy to fight along lightly defended or undefended avenues of approach.



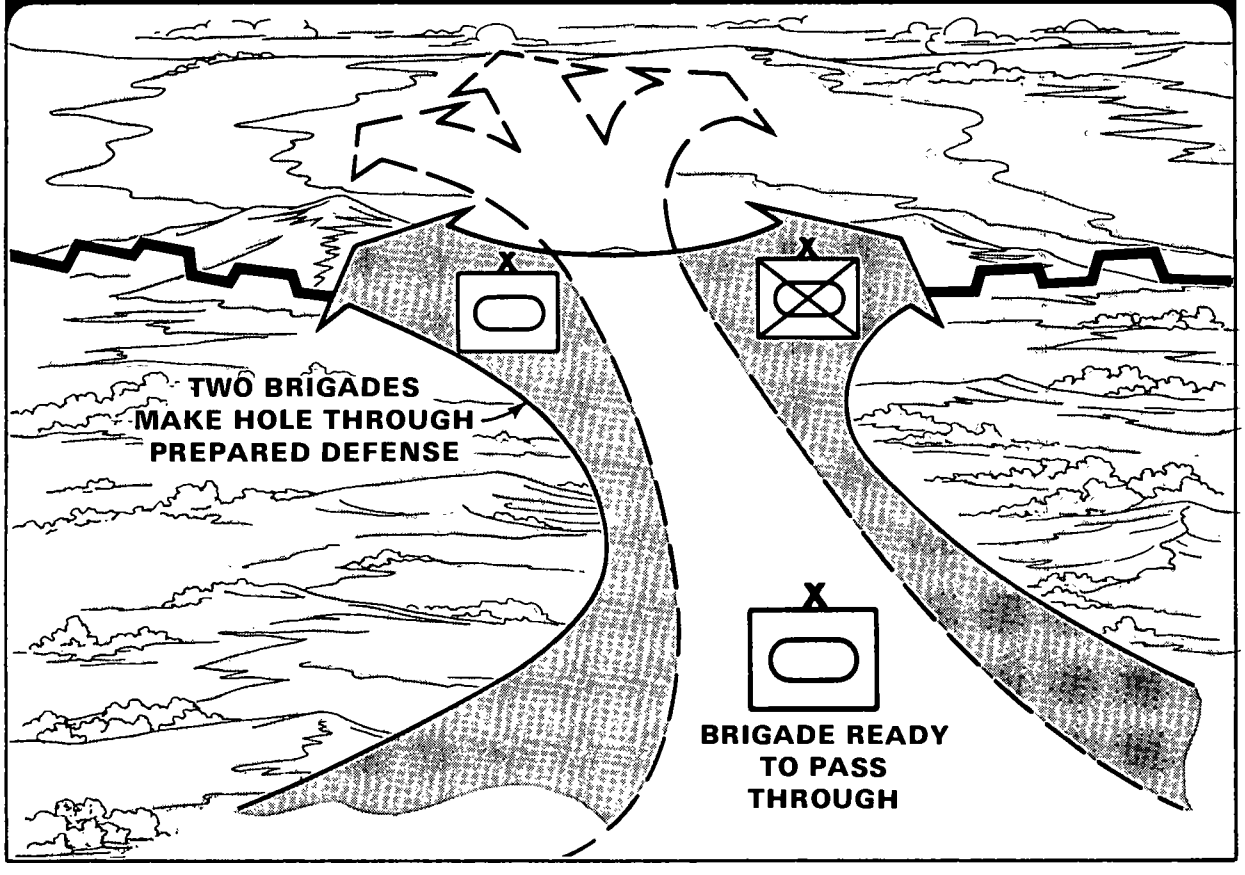
In a *penetration* the attacker concentrates forces to strike at an enemy weak point, breaks through the position to rupture his defense, holds the shoulders of the gap created, and advances rapidly to the objective.

Successful penetration depends upon the ability of the attacker to suppress enemy weapons, to concentrate forces sufficiently to overwhelm the defender at the point of attack, and to pass sufficient force through the gap to quickly secure the objective. Once this is accomplished the commander has two options. He may continue forward to rupture successive defense lines and ultimately enter enemy rear areas, or he may turn forces to roll up enemy positions from the flanks. The penetration may be preferred when the enemy is overextended or he does not have an exposed flank. Nuclear weapons may be used to rupture the enemy defense, while chemical and nuclear weapons can be used to block enemy reserves.

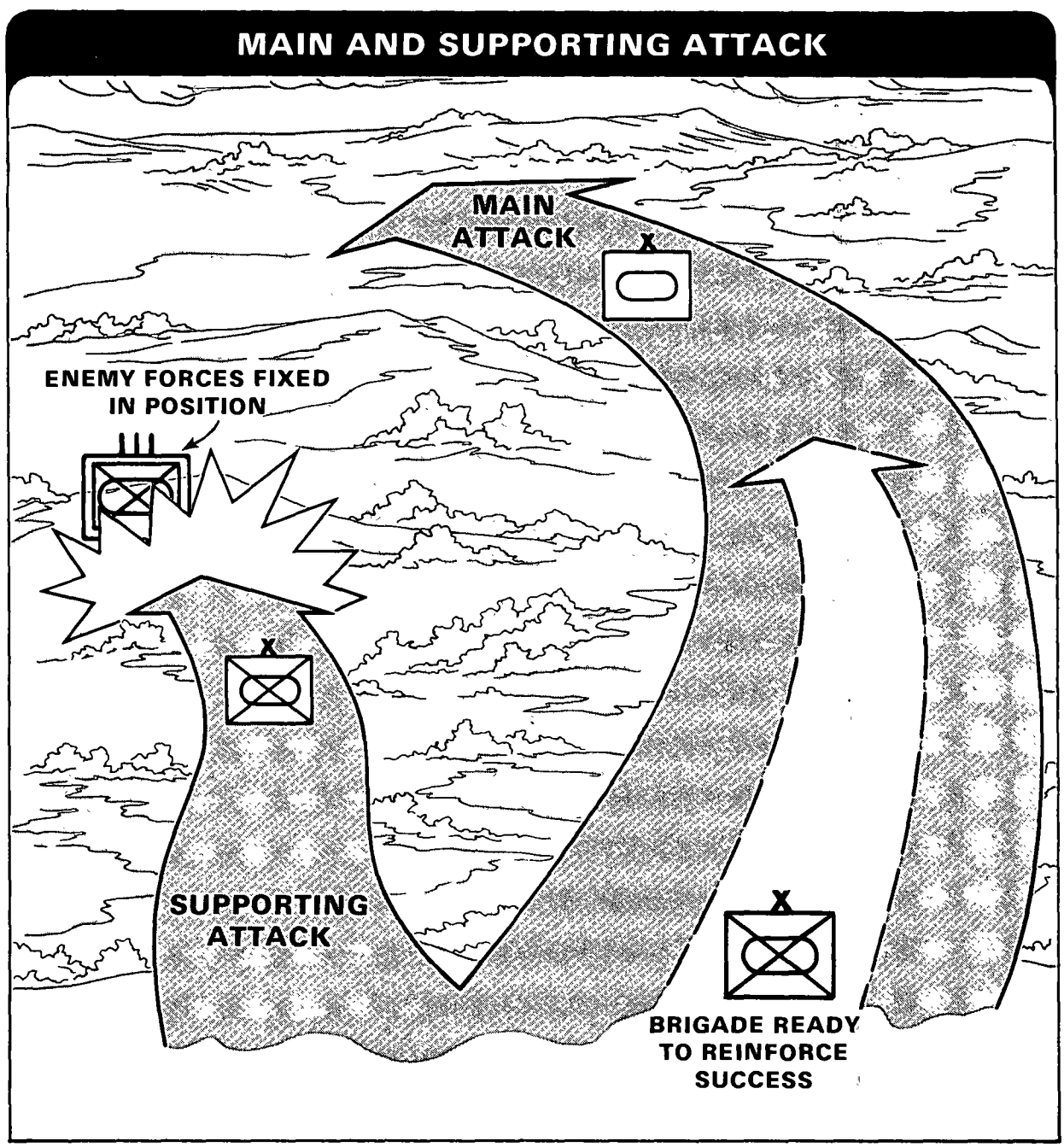
To succeed in the attack it is necessary to concentrate combat forces on a narrow front, although sometimes it is necessary to advance on a wide front until an enemy weakness is found. There are several ways to do this.

Two brigades make the main effort while one brigade is held ready to pass through the hole created and widen the flanks so other forces can pass through. This type operation is normally conducted against strong, well-prepared enemy defenses.

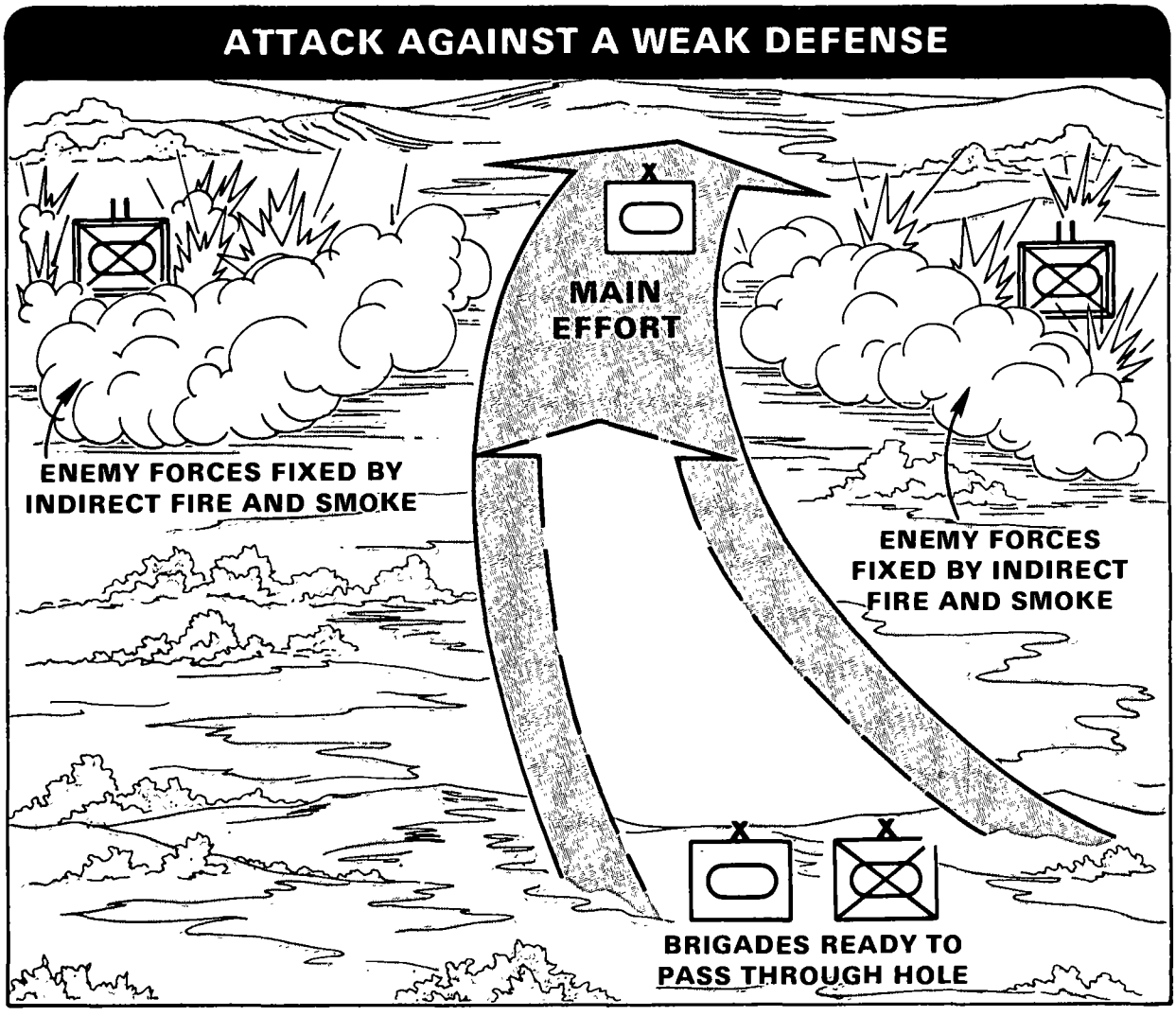
ATTACK AGAINST A STRONG, WELL-PREPARED DEFENSE



One brigade makes the main effort; one brigade makes a supporting attack to fix enemy forces in position, and one brigade is held ready to reinforce success. Sometimes a smaller force, such as a battalion, can be used to fix enemy forces in position when larger forces are not available.



One brigade attacks while remaining brigades are held ready to pass through the hole created by the lead brigade. Under these circumstances, it may be necessary to fix enemy forces elsewhere by indirect fires or by deception operations. This type operation may be conducted when attacking a flank, or when the enemy is weak, and his forward defenses can be quickly penetrated.



Brigades are organized for offensive operations as described in Chapter 3, *Preparation for Combat Operations*. They may be tank heavy, mechanized, or balanced, depending on the mission, enemy, terrain, and forces available.

The armored cavalry squadron generally reconnoiters or screens, guards, or covers the division advance. **These operations are described in FM 17-95, Cavalry.**

FIELD ARTILLERY AND CLOSE AIR SUPPORT

Priority of field artillery fires and close air support is normally given to the brigade or brigades making the main effort. When up against strong enemy positions, a field artillery preparation may be fired. In determining whether or not to fire a preparation, it is necessary to consider:

- **if the destructive or suppressive effects will offset any loss of surprise, and**
- **if sufficient targets have been located to warrant the ammunition expenditure.**

As in the case of field artillery, when sufficient targets are located in advance, close air support can and should be preplanned.

AIR DEFENSE ARTILLERY PROTECTION

Air defense artillery protects leading brigades and battalion task forces, division command posts, and service support installations.

ENGINEER SUPPORT

Priority for engineer support is also given to the brigade or brigades making the main effort. When gaps are to be crossed and hasty river crossing operations are to be conducted, sufficient bridging is essential. **River crossing operations are described in FM 90-13, River Crossing Operations.**

ELECTRONIC WARFARE AND INTELLIGENCE SUPPORT

Collection and jamming units and ground support radar teams from the combat electronic warfare and intelligence battalion normally operate with each brigade. They operate forward and on the flanks to locate enemy units and weak points. Location of reserves, regimental command posts, field and air defense artillery units, and enemy jammers are also important.

CONTROL MEASURES

Control measures are necessary for proper organization and control of offensive operations. They are keyed below to the illustration on next page.

1. **A Route of Advance** shows the assigned route of march and is labeled with a number, letter, or name. The start point (SP) and release point (RP) may also be shown.

2. **A Line of Departure (LD)** is designated to coordinate the departure of attack elements. It should be easily recognized on the ground and map, and should generally be perpendicular to the direction of attack.

3. **Passage Points** are designated in the location of the unit being passed. They show the points through which, the commanders agree, passing units should physically move.

4. **Boundaries** mark sectors of responsibility. However, commanders must not allow boundaries to prevent fires on an enemy force simply because the enemy is on the other side of a boundary.

5. **Coordination Points** are designated where covering force area (CFA) and main battle area (MBA) boundaries meet. Leaders coordinate fires and maneuver at these points and along boundaries.

6. **Phase Lines** extend across the zone or likely area of action and are located on easily recognized terrain features such as ridgelines, streams, and roads. Phase lines are used to control the movement of units.

7. **Directions of Attack** can be assigned when objectives are not assigned. They may also be useful supplementary control measures. ★

8. **A Limit of Advance** is set by the commander for control and for preventing assaulting elements from being hit by friendly fires.

9. **Fire Support Coordination Lines (FSCL)** are those lines forward of which all targets may be attacked by any weapon system without danger to, or additional coordination with, the establishing headquarters.

10. **Contact Points** are designated places where two or more units are required to make physical contact.

11. **Objectives** are normally assigned in an attack. They may be the only control measures assigned and are used to focus the efforts of attacking units.

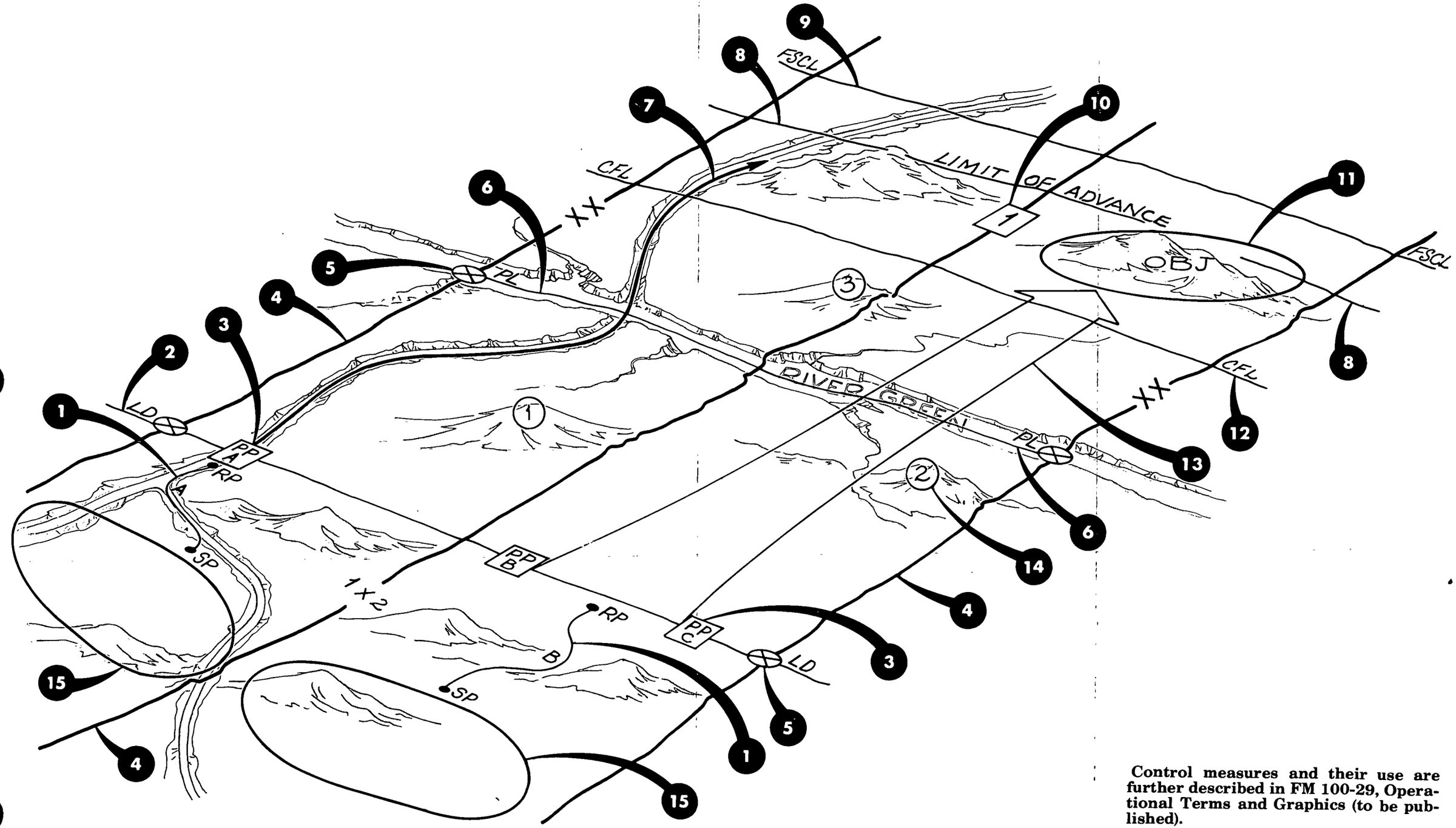
12. **Coordinated Fire Lines (CFL)** delineate the area beyond which field artillery, mortars, and ships may fire at any time without additional coordination.

13. **Axes of Advance,** which indicate general direction of movement of an attacking unit, or **Zones of Attack** which consist of the assigned area of operation of subordinate elements.

14. **Checkpoints** are reference points used to facilitate control. They may be selected throughout the zone of action or along an axis of advance or direction of attack.

15. **Assembly Areas** are occupied for organization, combat, maintenance, supply, issuance of orders, and rest. The command assembles in the assembly area to prepare for operations.

- **Restrictive Fire Lines** are established to coordinate fires between any converging or adjacent forces. (Not shown.)



Control measures and their use are further described in FM 100-29, Operational Terms and Graphics (to be published).

CONTROL MEASURES

TYPES OF OFFENSIVE OPERATIONS

MOVEMENT TO CONTACT

Whenever US Army forces are conducting an offensive operation, are moving, and are not in contact with the enemy, they are said to be moving to contact. Most attacks begin with a movement to contact. *The purpose of movement to contact is to gain or regain contact with the enemy and to do it in a way that risks the smallest possible part of the force while the remainder is available to immediately respond when contact is made.* Once contact is made the commander can further develop the situation, maneuver and concentrate forces, and attack. When out of contact he can do none of these against the enemy. Two general situations can exist.

The *more common situation* is one in which the division is attacking and leading battalion task forces are moving to contact. Armored cavalry may be employed to screen forward of leading battalion task forces or to screen or guard the flanks of the division. Supporting forces are employed much the same as when the entire division conducts a movement to contact operation. Field artillery batteries may be dedicated to leading company teams or battalion task forces when considered necessary by the brigade commander and his direct support field artillery battalion commander. Vulcan platoons may also operate with leading battalion task forces.

The other situation occurs if the entire division is out of contact and the distance between friendly and enemy areas of operation is many miles. A formal movement to contact operation may then be conducted. In a formal movement to contact, the division may organize for combat with a covering force, an advance guard, a main body, flank guards, and a rear guard.

The division *covering force* is normally organized around the armored cavalry squadron or a tank heavy or balanced battalion task force. It is usually reinforced with field and air defense artillery and engineers. An attack helicopter company may also operate under the operational control of the covering force. More often, attack helicopter units are retained under division control. A covering force may be used to:

- **locate the enemy, develop the situation, and penetrate the forward defenses of an enemy force deployed or deploying to defend, or**
- **destroy enemy reconnaissance and advance guard units and force first echelon regiments of enemy forces to deploy.**

An *advance guard* may be used to assist the covering force and to prevent premature deployment of the main body. It develops the situation along designated routes or axes of advance.

The advance guard is usually a tank heavy or balanced battalion task force moving in front of a leading brigade. It operates *within* range of field artillery moving with the main body.

Flank and rear guards may be used to protect the main body from ground observation, surprise, and direct fire. A flank or rear guard usually consists of one or two company teams or sometimes armored cavalry troops. Pure mechanized forces may be preferred for rear guard operations.

The remainder of the division moves in the *main body*. The main body normally moves with at least two brigades leading on generally parallel axes. When enemy forces are not organized in depth, it may be preferable for all brigades to move abreast.

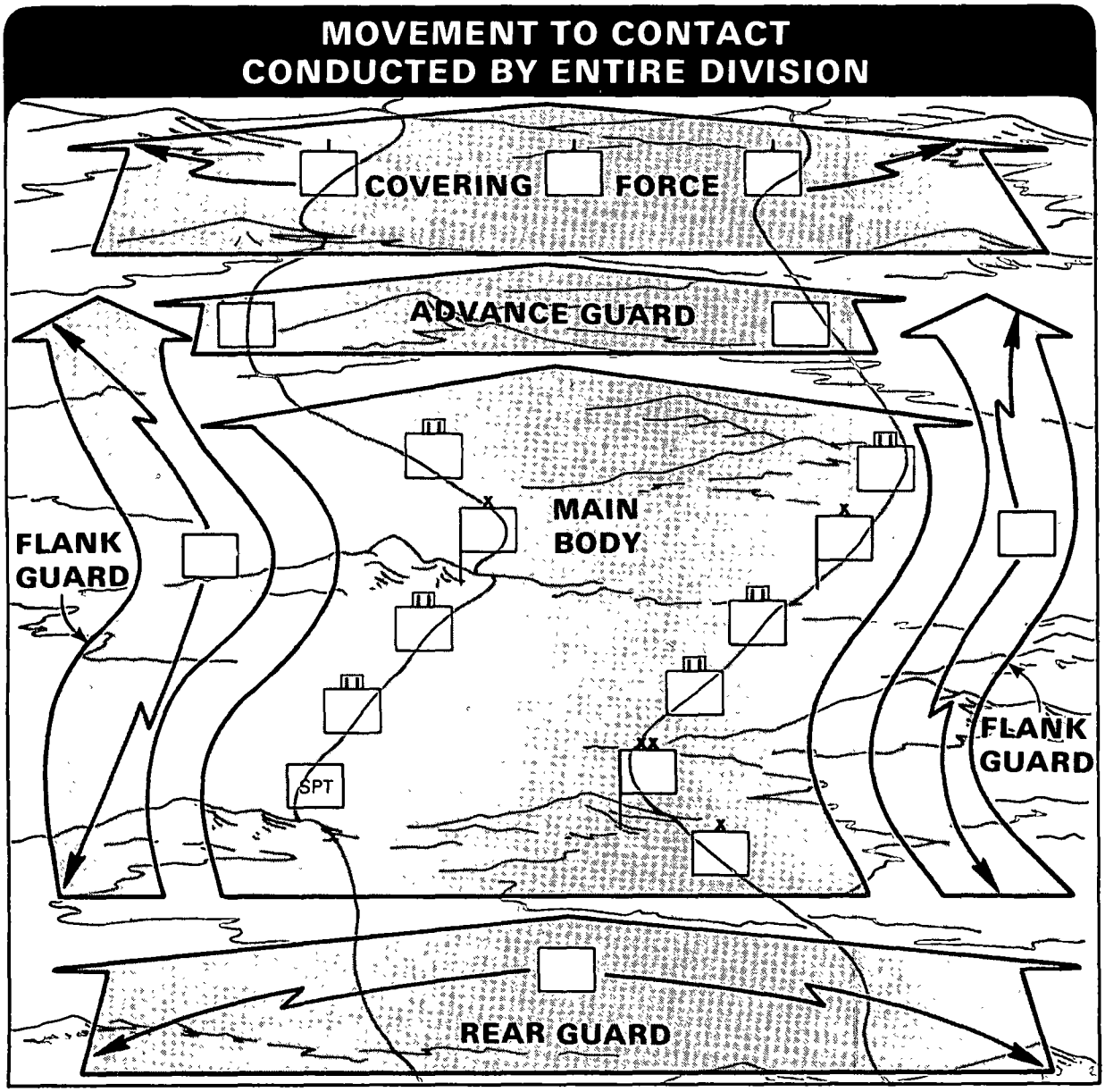
Direct support field artillery battalions move with supported brigades with some batteries positioned well forward in the column. The rest of the division artillery moves on multiple routes and is dispersed throughout the main body. As previously described, some field artillery may operate with the covering force. In any case, field

artillery support for covering and guard forces must be provided for.

CHAPARRAL batteries operate in general support of the main body, while VULCAN batteries normally operate in direct support of covering and guard forces.

Engineers operate with leading units. An engineer company or company (-) may be attached to the covering force and engineer platoons to leading battalion task forces.

The combat intelligence and electronic warfare battalion operates to locate the enemy in strength. Its collection and jamming platoons and ground support radar teams usually operate with the covering force and flank guards. Electronic countermeasures can be used against enemy command control and fire support nets. Electronic deception may be used to deceive the enemy as to the location of the main body.



MEETING ENGAGEMENTS

A meeting engagement occurs when a moving force makes contact with a moving or stationary enemy force about which it has little or no information. *The action ceases to be a meeting engagement when the situation has been developed and other actions are undertaken, such as a hasty attack or defense.*

WHEN CONTACT IS MADE WITH THE ENEMY DURING A MEETING ENGAGEMENT, QUICK ACTION MUST BE TAKEN TO PREVENT THE ENEMY FROM REACTING

The primary goal, once contact is made, is to gain the upper hand by taking actions to overcome the enemy before the enemy can effectively react. To do this the commander must have his force in a good posture at the time of contact, must have good information as to the situation, either through good reports or personal observation, and must immediately issue instructions for action.

If the enemy force is also moving, which is frequently the case in the exploitation; the counterattack, and even in defense, speed in both decision and execution is most important. *The commander must make a very quick estimate of enemy strength and either adopt a hasty defense or implement a hasty attack, outflank the enemy, and destroy him.*

THE ATTACK

The division attacks under a variety of circumstances. Most often, it attacks:

- from defensive positions after an enemy attack has been slowed or stopped,
- as an extension of a movement to contact, or
- following a passage of lines through an attacking or defending force.

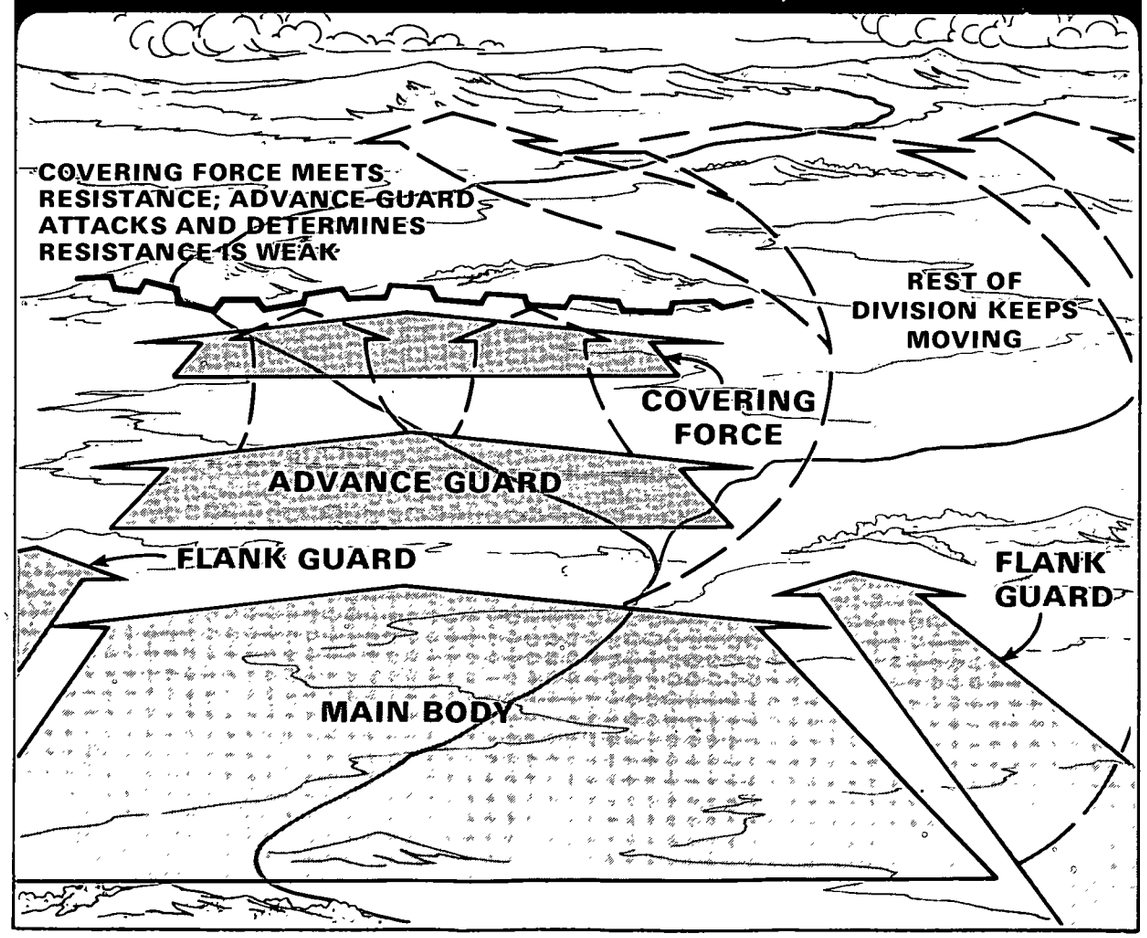
Once contact is made, information about the situation must be reported to higher headquarters as quickly as possible. Of immediate importance is the size of the enemy force and the commander's assessment of his chances for success. As the battle develops, status of fuel and ammunition of the force in contact and supporting field and air defense artillery can become equally important.

It is necessary to determine as quickly as possible whether the enemy can be bypassed or must be attacked and destroyed. Bypassed enemy forces must be reported to the next higher headquarters which then assumes responsibility for their destruction, suppression, or containment.

As a general rule, if leading battalion task forces cannot quickly defeat, bypass, or fight through the enemy, the division commander must decide whether to conduct a hasty attack; or if it is necessary, to take more time to develop the situation and conduct a carefully planned deliberate attack. In any event, a hasty attack may be conducted to insure that the division is not being held up by inferior forces conducting a delay.

If a hasty attack is to be conducted, fragmentary orders are issued immediately. Those orders set in motion battalion task forces, supporting field artillery, attack helicopter, and offensive air support in sufficient strength to fix enemy forward elements in place, break weak spots, or open flanks and move friendly forces quickly through. Speed is most important. If momentum is lost, the hasty attack can fail.

HASTY ATTACK FOLLOWING MOVEMENT TO CONTACT



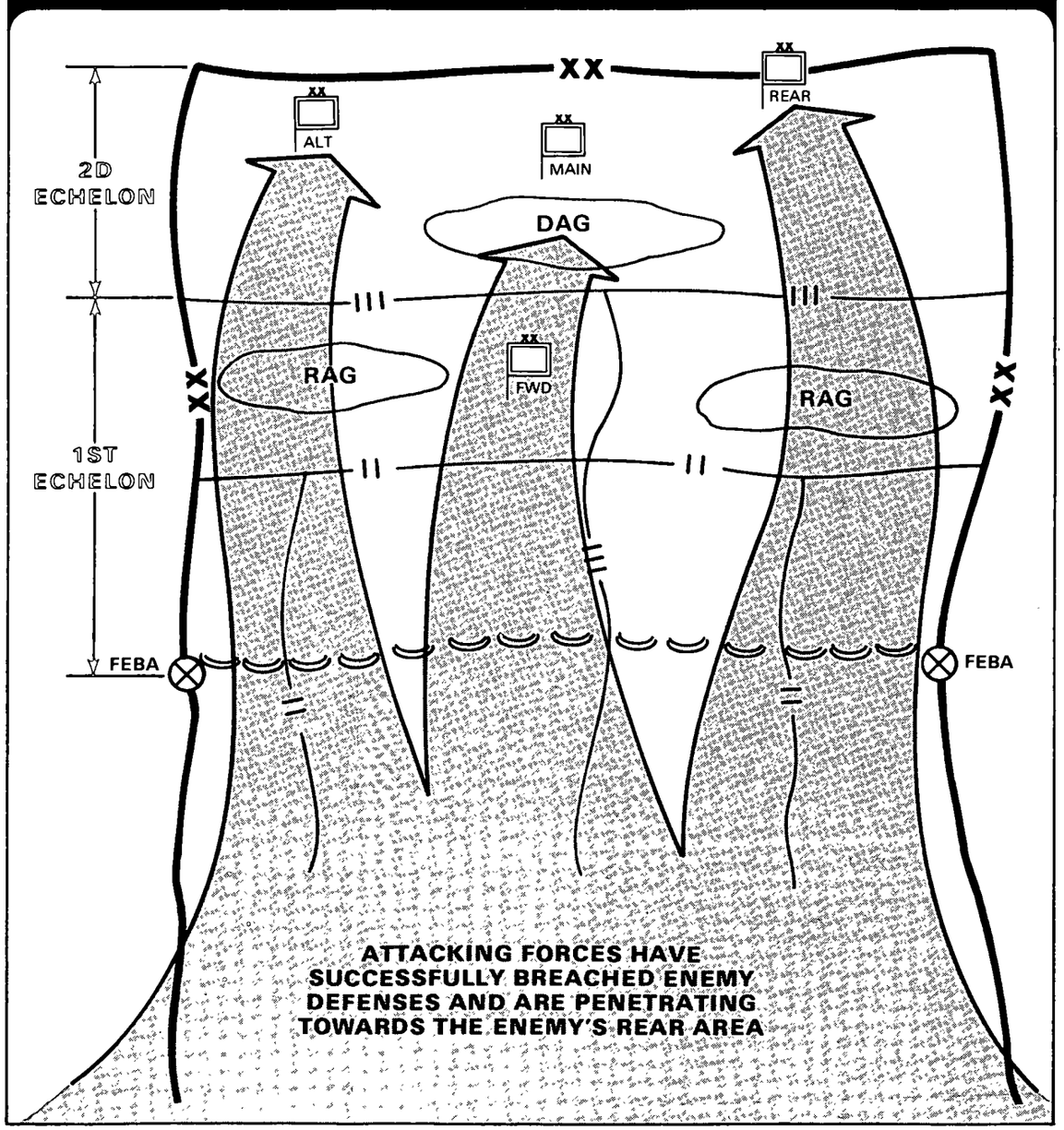
When good information is available about the enemy, the attack may be deliberate from the outset. Such an attack usually starts with a passage through a force in contact. In any case, when the division encounters a strong enemy force, in well-prepared positions, that cannot be overcome by a hasty attack, it must take sufficient time to prepare for and conduct a deliberate attack. However, only that amount of time absolutely necessary should be taken to prepare for the attack. *If too much time is spent in preparation, the enemy could reinforce his positions, or even launch an attack against the division. The initiative could, thus, be lost.*

It is unlikely that terrain can be seen or reconnoitered in detail more than 4 or 5 kilometers into enemy territory. Therefore, detailed planning of maneuver and fires will usually be limited to this area. Planning for actions beyond this limit must be more general, with maneuver of forces and fires sketched out in broader terms. Units must be prepared to exploit any opportunity presented by terrain and enemy weakness.

Two broad options will normally be present when a deliberate attack has successfully breached enemy defenses. The first is to press forward with committed forces toward the next echelon of enemy defenses. This is done to encounter and defeat the second defensive belt as quickly as possible, relying heavily on the disruptive effects of speed, violence, and continuous attack to carry through second echelon defenses. The second is to turn left or right to roll up more enemy positions, one after another, from the flank, while another force exploits the breach.

When employing this course of action, the commander must be cautious because enemy second echelon defenses are always sited to support the first line defensive belt. This means the rollup operation must be conducted within the range of at least the fires of the second echelon. It also means the rollup force can become engaged to the extent that it cannot support forces moving to exploit the breach. Holding and widening the breach, especially at the shoulders, is essential and can be accomplished by attacking or following echelons. As a general rule it is better to press home with the attacking force, seeking to destroy the cohesiveness of an enemy defense with the violent disrupting effects of a coordinated armored attack.

DELIBERATE ATTACK



EXPLOITATION AND PURSUIT

Exploitation and pursuit are the capstones of mounted warfare. The ultimate objective of combat operations is destruction of the enemy's armed forces. Exploitation and pursuit accomplish this objective. Commanders must always keep this in mind, and be prepared to exploit success whenever the opportunity presents itself. Breakthrough may be achieved gradually or abruptly. Enemy defenses often consist of belts, echelons, and lines of positions. Having broken through one, it is often necessary to move to and break through the next. The more rapidly this can be done the less likely succeeding lines will be fully prepared. When it can be recognized that the enemy is having trouble maintaining overall continuity, exploitation and pursuit are ordered. Indicators that the enemy is in trouble are:

- **general decrease in resistance,**
- **increase in numbers of prisoners, and**
- **overrunning:**
  - **artillery positions,**
  - **command posts,**
  - **signal installations,**
  - **supply dumps, and**
  - **supporting units.**

Exploitation. The purpose of exploitation is to prevent the enemy from reconstituting an organized defense or conducting an orderly withdrawal. This can be done by rapid advance toward the enemy rear area, bypassing small pockets of resistance, and by destruction of lightly defended and undefended installations and activities. The division normally exploits on a broad front, usually with brigades moving abreast. A terrain objective, often some distance away, is assigned to the exploiting force. It may be a critical communications center, a mountain pass, or other area that, if captured, will significantly contribute to destruction of organized enemy resistance. Or, the objective may simply be a point of orientation and serve no other purpose.

EXPLOITATION DENIES THE ENEMY THE ABILITY TO RECONSTITUTE AN ORGANIZED DEFENSE

Exploitation is continued day and night as long as the opportunity permits. Exploitation may be limited more by vehicle breakdown and by fuel than by combat losses and ammunition. As the exploiting force penetrates deeper into enemy rear areas, the length of supply lines increases. Adequate stocks of fuel, spare parts, and food, as well as ammunition, should accompany the force so momentum is not lost for lack of support.

As a general rule, 4 to 6 days of supplies should be carried. Disabled vehicles that cannot be readily repaired are towed forward with the attacking force to be repaired at the earliest opportunity.

IN PURSUIT, THE ULTIMATE BLOW IS DELIVERED TO COMPLETE DESTRUCTION OF AN ENEMY FORCE

Pursuit. The purpose of pursuit is to complete destruction of an enemy force that has lost the ability to defend or delay in organized fashion and is attempting to disengage and withdraw. Unlike exploitation, in which the attacking force seeks to avoid enemy units in order to destroy the enemy support system; *in pursuit, the attacker focuses on the major enemy force.* Terrain objectives may be assigned to orient pursuing forces and will usually be very deep. A division, for example, having broken through enemy defenses along a river, might be ordered to pursue enemy forces towards a particular city. Pursuit operations require:

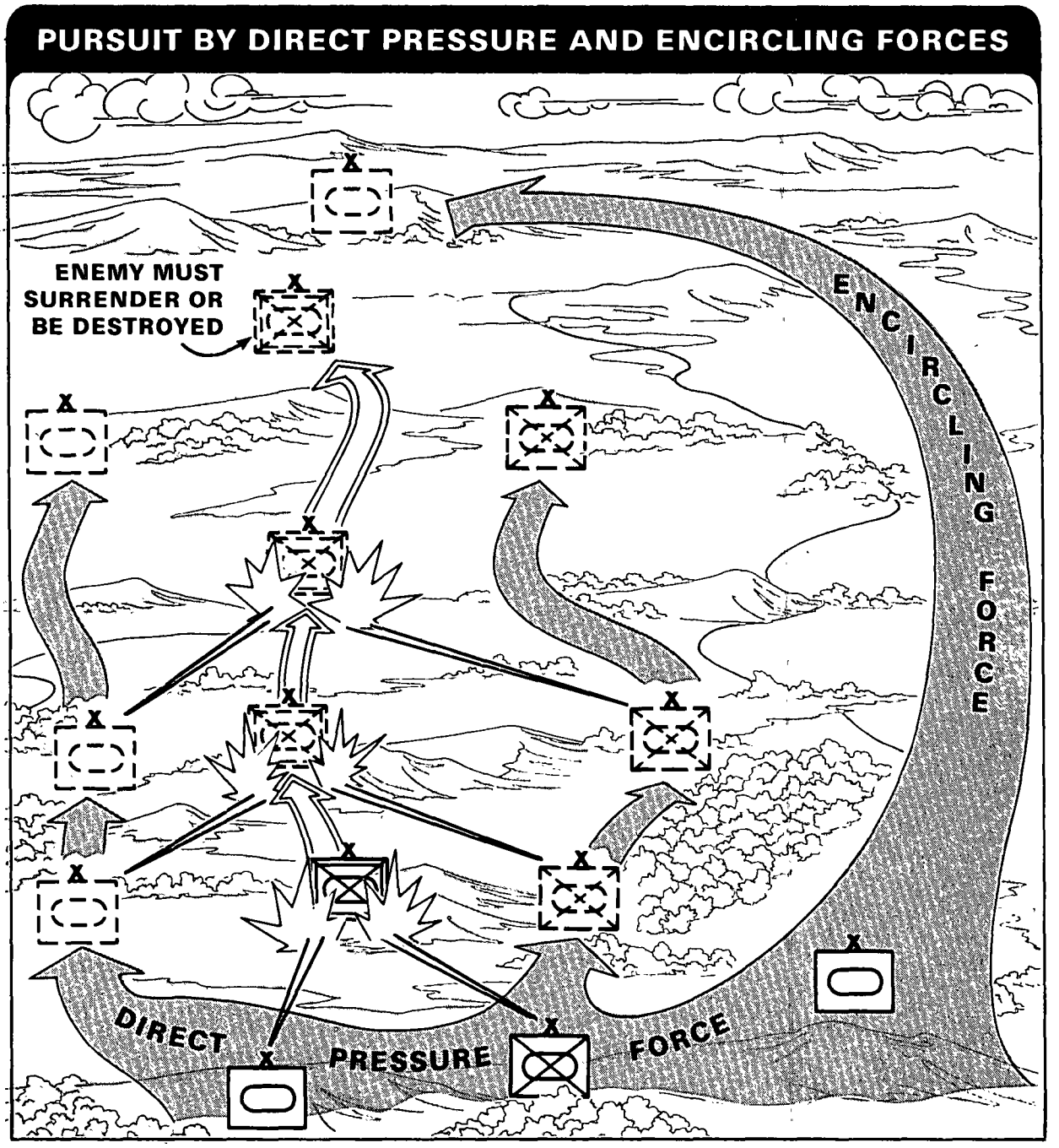
- **a direct pressure force:**
  to deny enemy units any chance to rest, regroup, or resupply, by keeping them in flight, and
- **an encircling force:**
  to envelop the fleeing force, cut its escape route, and in conjunction with the direct pressure force, attack or destroy the enemy force.

The *direct pressure* force conducts hasty attacks, always maintaining contact and forward momentum. The enemy is harassed, driven backward, weakened, and attacked until it ceases to exist.

The *encircling force* moves as swiftly as possible by the most advantageous routes to cut off enemy retreat. If necessary it adopts a hasty defense behind the enemy to block his

retreat. Caught between two forces, unprepared and unable to defend, the enemy must surrender or be destroyed.

Tank and mechanized forces can be used for both direct pressure and encircling forces, although tank-heavy forces are normally preferred in the encircling force. When helicopter units and airmobile forces are available, they may be used as the encircling force while ground units are used in the direct pressure role.



Adequate combat service support is at least as important in pursuit as it is in exploitation. Field artillery units are integrated into pursuing forces so that they will always be available to fire into and beyond retreating enemy columns. Here, nuclear weapons may be useful to destroy enemy artillery and large concentrations of enemy forces. Engineers must be well forward so that hastily erected barricades and natural obstacles will not impede progress of pursuing units or permit the enemy to break contact or reorganize.

In both exploitation and pursuit operations, the combat electronic warfare and intelligence battalion is used to seek out enemy counterattack forces and to jam enemy command control nets.

A FOLLOW AND SUPPORT FORCE DENIES THE ENEMY THE CAPABILITY TO REORGANIZE HIS FORCES

A *follow and support* force is usually employed in exploitation and pursuit operations. Such a force is used to accomplish any or all of these tasks:

- **destroy bypassed enemy units,**
- **relieve in place any supported units that have halted to contain enemy forces,**
- **block movement of reinforcements,**
- **secure lines of communication,**
- **guard prisoners, key areas and installations, and control refugees.**

The follow and support force is not a reserve. It is considered a fully committed force and is provided support normally associated with a fully committed force.

When the division is conducting an exploitation or pursuit operation, it may assign a brigade the mission to follow and support exploiting or pursuing brigades. Corps may also assign a division the mission to follow and support an exploiting or pursuing division.

MOBILITY OPERATIONS

During an attack, particularly against a deliberate defense, the division should expect to encounter obstacles to mounted movement. Natural obstacles, for example, forests, large bodies of water, canals, rivers, or gaps in the terrain, can normally be identified in

advance from map or physical reconnaissance. Operations are planned to bypass natural obstacles, or sufficient engineer equipment must be located well forward with leading battalion task forces to breach or cross them.

While aerial reconnaissance can sometimes reveal the location of reinforcing obstacles, they are most often discovered initially by leading task forces or the armored cavalry squadron. The most common reinforcing obstacles are:

- **minefields,**
- **log obstacles such as abatis, log cribs, stumps, posts,**
- **wire obstacles, and**
- **tank ditches and craters.**

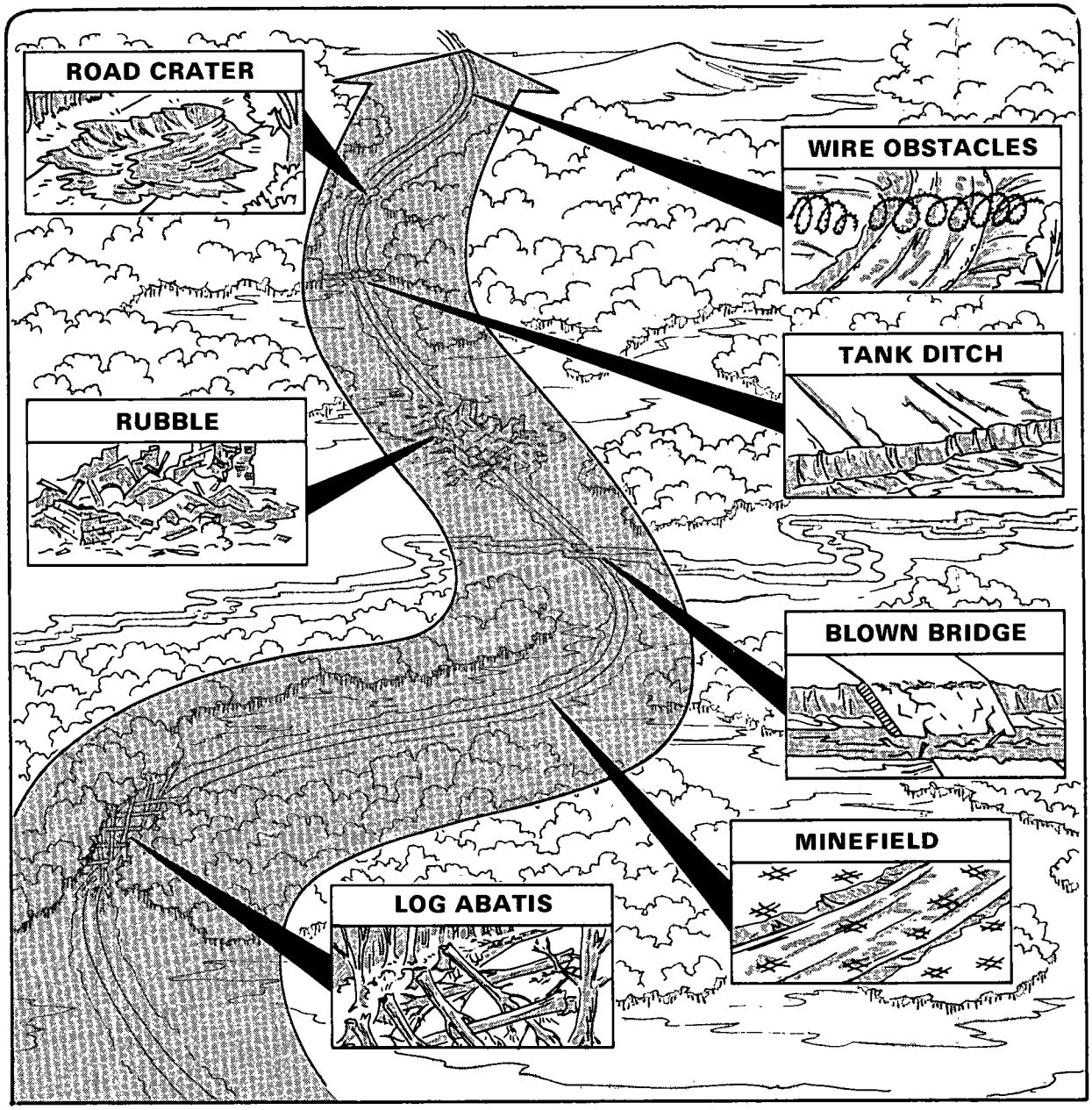
As in the case of natural obstacles, reinforcing obstacles should be bypassed whenever possible. A battalion task force commander encountering an obstacle which will slow or stop his advance should immediately determine if it can be readily bypassed. If he cannot bypass quickly, breaching operations are started. Even while breaching operations are underway, other battalion task forces, the armored cavalry squadron, or air cavalry, should continue to search for a way to bypass the obstacle. Since obstacles are often covered by enemy fire, it is important to bypass or breach quickly so as not to delay the advance, or expose divisional units to fire longer than necessary.

There are two methods commonly used to *breach* an obstacle.

1 ***An assault breach*** is accomplished rapidly with little reconnaissance or advance planning. An assault breach is often conducted under fire and may be preferred in order to maintain the momentum of the advance. When possible, combat engineers moving with leading company teams perform the breach, while overwatched by tanks and infantry. However, tank and mechanized units may perform assault breaches without engineer support. In an assault breach, rapid breaching devices are used to clear lanes through the obstacle only wide enough to allow combat forces to continue the advance.

2 ***A deliberate breach*** may be conducted by combat engineers if there is time for detailed reconnaissance and planning. The primary difference between an assault breach and a deliberate breach is time. In a deliberate breach, necessary time is generally taken to completely clear obstacles, particularly in the cases of minefields.

The following illustration shows the variety of obstacles the division may encounter.



Breaching operations are described in detail in FM 90-7, Obstacles.

Crossing natural and artificial gaps. Short gaps—tank ditches, craters, and canals of 18 meters or less can normally be spanned by the class 60 armored vehicle launched bridge (AVLB). AVLBs are found in tank battalions and in the engineer battalion bridge company. Since mechanized battalions have no bridging of their own, AVLBs are normally provided to them by the engineer battalion.

For crossing rivers wider than 18 meters, bridges must be assembled by divisional and corps engineers. River crossing operations are described as either hasty or deliberate.

Hasty crossings are conducted with little or no loss of momentum. The river is approached at maximum speed on a broad front, every effort being made to seize existing bridges intact. If bridges cannot be seized intact, crossings are made on a wide front at multiple crossing sites using rafting and bridging equipment from the divisional engineer battalion bridge company. When river crossings are anticipated, necessary crossing equipment should move with leading battalion task force combat trains so it can be quickly put into operation.

When a hasty crossing is not practical, a deliberate river crossing operation must be conducted. To conduct a deliberate crossing, it is necessary to take time to concentrate forces on the entry shore for the assault. As a general rule, corps must provide additional crossing equipment for river crossing operations to the division.

River crossing operations may be conducted in phases.

- **The first phase is the assault. It is conducted from the line of march using amphibious vehicles and perhaps assault boats. The purpose of the assault is to move as many troops and weapons as possible across the river quickly in order to secure the exit bank.**
- **Rafting begins as soon as the assault is underway in order to move tanks and, later, field artillery across the river.**
- **Bridges are usually installed by corps engineers once assault forces have penetrated the exit bank of the river deep enough to preclude enemy ground observation of bridge sites. Bridges are generally not used during the assault because they take time to erect and emplace and are vulnerable to enemy fire.**

River crossing operations are described in detail in FM 90-13, River Crossing Operations and FM 5-100, Engineer Combat Operations.

Maintenance of Roads and Trails In an attack, divisional engineers accomplish only essential road repairs necessary to allow combat units to maintain momentum of the advance, and to rearm and refuel weapon systems. Time-consuming construction and repair work are normally accomplished by corps engineer battalions.

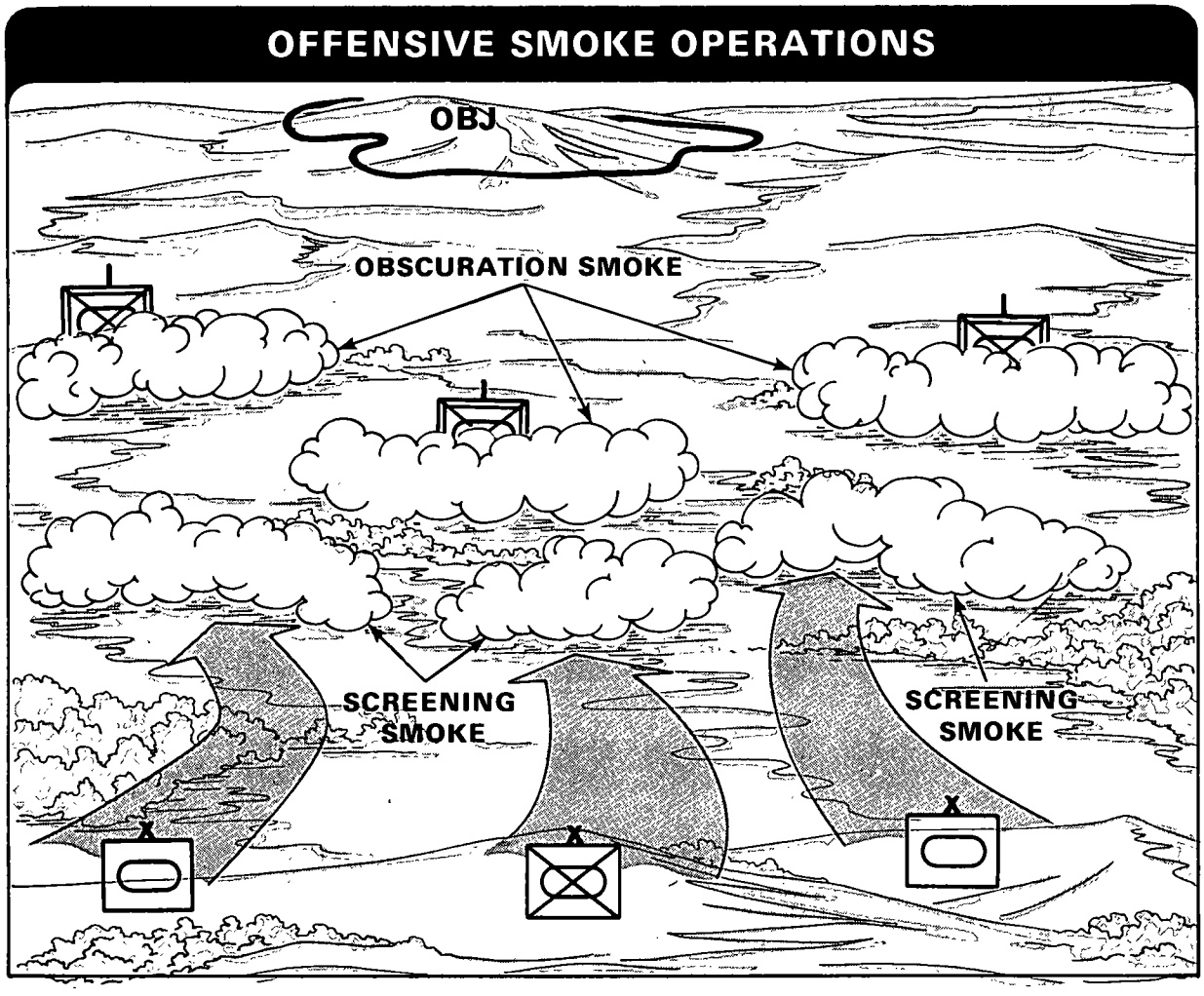
COUNTERMOBILITY OPERATIONS

Although obstacles are used by the division most often during defensive operations, they may also be used from time to time during an attack. When it is necessary to do so, mines or craters can be used to protect a vulnerable flank or a unit reorganizing on an objective if the unit is to be there for an extended period. The family of scatterable mines (FASCAM) soon to be introduced into the US Army, will give the division the capability to emplace mines in the enemy rear to block enemy reinforcements, routes of withdrawal, and counterattacking forces.

Persistent chemical munitions can also be used to slow or stop enemy reinforcement, or to halt a retreating enemy.

SMOKE OPERATIONS

During offensive operations, smoke delivered by field artillery and mortars is used to degrade enemy observation of divisional units. *Obscuration smoke is* placed on or near enemy positions to blind gunners and observers, while *screening smoke is* placed between divisional and enemy forces to conceal divisional units.



Smoke may also be used to deceive the enemy as to the division's intentions; for example, smoke may be used to attract the enemy's attention on one part of the battlefield while divisional units attack on another.

In the attack, when smoked by the enemy, divisional units should move rapidly out of smoked areas to regain good observation and fields of fire and continue to advance. Care must be exercised to avoid being silhouetted against smoke. *Movement techniques, that is good use of natural cover and concealment and of overwatch, are just as important in a smoke environment as operations during normal visibility.*

LIMITED VISIBILITY OPERATIONS

The division will often attack during night and other periods of limited visibility. Offensive operations during such periods provide the advantage of striking a defender when the range of his observation and weapons is reduced, and mutual support between positions is limited. Such operations may be conducted to:

- **achieve surprise,**
- **exploit earlier success,**
- **maintain momentum, and**
- **rupture strong enemy defenses.**

Modern devices for night vision provide the division with the capability of fighting at night much as it fights in daylight. This capability is modified by somewhat reduced engagement ranges. White light artificial illumination, with all its inaccuracies, should be used only when night vision devices are not available in sufficient quantities, when ambient light levels are very low, or when the use of night vision equipment affords the enemy an advantage. Flares do not discriminate between friend and foe, and may illuminate both. Changes in wind direction can result in flare exposure of the attack while defenders hide in the shadows. Searchlights and other active illumination means disclose their sources. The side equipped with passive devices has a distinct advantage over the side that is not.

The degree of advantage and disadvantage that may be gained by using illumination depends on the extent to which visibility is limited, and on the availability of night vision devices to both attacker and defender. During periods of darkness, with high ambient light levels, passive night vision devices will allow the battle to be fought using daylight tactics. However, detection and engagement ranges, length of bounds, and the ability to move mounted on covered and concealed routes all may be reduced. When ambient light levels are very low, or when the defender has an advantage in night vision devices, artificial illumination may be necessary.

Visibility limited by snow, rain, fog, or smoke presents special problems in both navigation and in maneuver of forces. Target acquisition is complicated by the difficulty of identifying friend and foe.

Human efficiency is reduced by the inability to see. Many tasks that are simple in warm, dry weather become difficult to perform in snow or rain. Encumbered by parkas, raincoats or ponchos, mittens, or other special clothing, soldiers take longer to accomplish basic tasks and tire more quickly. The efficiency of radar and night vision devices is reduced in snow, rain, fog, or smoke.

The extra problems created by extremely limited visibility should not discourage planners, for each can be overcome. The enemy has the same problems and more. He does not know when and where the attack will come and any factor which limits the range of weapons favors the attacker. Additionally, it will take him longer to concentrate reinforcements against the attack. Limited visibility will often create the conditions necessary for a successful attack.

Suppression requirements are normally less because enemy direct fire weapons and indirect fire observers will already be restricted. Reconnaissance should be conducted by leaders at all levels, as in night operations. Plans should be detailed and coordinated; but above all else, they must be *simple.*

Attack. There are three types of limited visibility attacks the division may direct subordinate units to conduct:

1. movement to a more favorable position for a daylight attack,
2. infiltration attack by dismounted elements, and
3. attack of an occupied objective.

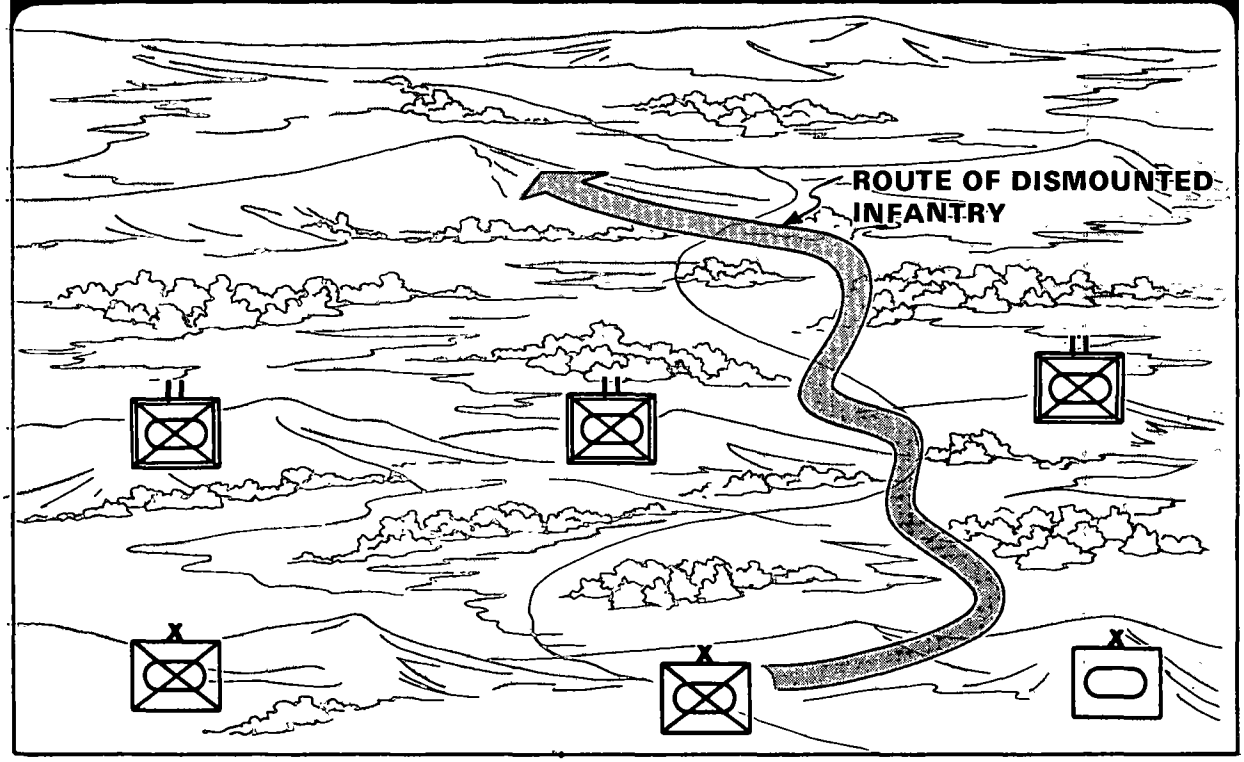
1

Movement to a More Favorable Position. When attacking an enemy disposed in positions affording good long-range fields of fire, the last 3000 meters of the approach may produce unacceptable losses. Under these circumstances, it may be better to wait for a short period of time to take advantage of darkness or the arrival of bad weather or fog. Terrain objectives that are believed to be unoccupied are selected. Forces are maneuvered up to or between the positions of the enemy onto terrain which facilitates destruction of the enemy when visibility improves, or forces the enemy to react because he has been outflanked.

2

Infiltration. A dismounted infantry force may sometimes move around or between enemy positions under cover of darkness. The force can occupy terrain not held or lightly defended by enemy. When daylight arrives, infantry can assault strong enemy positions nearby from flank or rear, support other attacking forces, or block withdrawing enemy.

DISMOUNTED INFANTRY INFILTRATION UNDER COVER OF DARKNESS



3

Attack of an Occupied Objective. Techniques used to attack an occupied objective during periods of limited visibility are similar to those used during a daylight deliberate attack. Detailed knowledge of enemy dispositions on each position to be assaulted must be available to make this type attack successful. The maneuver force can often get closer to an enemy position by capitalizing on the enemy's inability to acquire and engage long-range targets, and on reduced mutual support between enemy positions due to lack of visibility. *Although the fundamental of attacking enemy weaknesses holds true, attacks during periods of limited visibility can be used to rupture strong enemy positions when no weaknesses can be found.*

THE COMMANDER MUST HAVE DETAILED KNOWLEDGE OF ENEMY DISPOSITIONS ON POSITIONS TO BE ASSAULTED

When a mounted attack is conducted, dismounted engineers and infantry may be used to breach enemy obstacles ahead of mounted elements. Illumination fires are planned and called for if required—normally not until final assaults are made. Smoke should be planned to cover movement. Field artillery and mortar fires may be used to deceive the enemy and hide the sound of vehicle movement, as well as to suppress his positions. Deception measures can be effective in misleading the enemy as to the location and time of attack. The attacker moves as close to enemy positions as possible without having to fight, then overwhelms the enemy with carefully planned final assaults.

Distances to be covered should be relatively shallow (1 to 3 kilometers from LD to objective). Leaders at all levels should have the opportunity to observe the terrain all the way to the objective during good visibility.

Command control will be primarily by radio once the attack begins. Insofar as they can be seen, visual aids for recognition may assist in control of forces. Color panels, arm bands, luminous strips, or patterns may help. Objectives will usually cover less ground than is normally the case, and must be sufficiently prominent so that they can be easily found.

LINKUP OPERATIONS

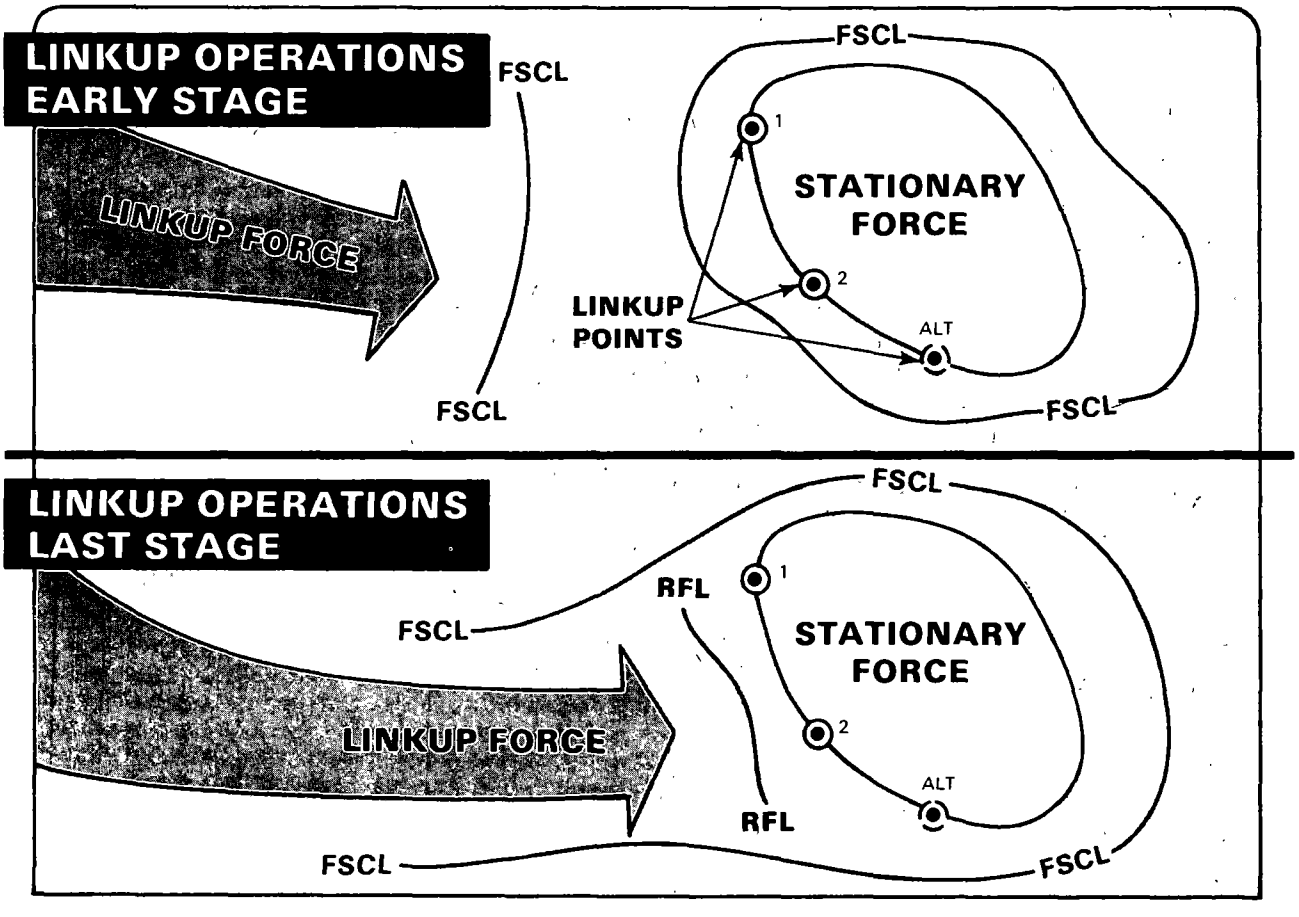
Linkup operations are conducted to join two friendly forces together. Both forces may be moving towards one another, or one may be stationary while the other is moving. Linkup operations may be conducted in a variety of circumstances. They are most often conducted to:

- **complete the encirclement of an enemy force,**
- **assist breakout of an encircled friendly force, or**
- **join an attacking force with a force inserted in the enemy rear, for example, an airborne or air assault force.**

When linkup is accomplished, the two forces may operate as a combined force or continue to operate separately under control of a higher commander.

The headquarters ordering the linkup establishes the command relationship between forces and the responsibilities of each. It should also establish control measures such as boundaries between converging forces, fire support coordinating lines, and other measures to control maneuver and fires. Such control measures may be adjusted during the operation to provide for freedom of action as well as positive control.

★When the corps directs the operation, it normally establishes a fire support coordination line (FSCL) for both forces. FSCLs are adjusted as one force moves towards the other until one FSCL is used for both forces as shown in the illustration. A restrictive fire line (RFL) is established between the forces when necessary.



Joining forces exchange as much information as possible prior to the operation. Commanders of the forces involved should meet to consider:

- **command relationships before, during, and after linkup,**
- **coordination of fire support before, during, and after linkup,**
- **planned routes to linkup points,**
- **location and description of linkup points and alternate linkup points,**
- **recognition signals and communication procedures to be employed, and**
- **operations to be conducted following linkup.**

When one of the units involved is stationary, linkup points are usually located where the moving force's routes arrive at the location of the stationary force's security elements. Alternate linkup points are also designated since enemy action may interfere with linkup at primary points. Stationary forces assist in the linkup by opening lanes in minefields, breaching or removing selected obstacles, furnishing guides, and designating assembly areas.

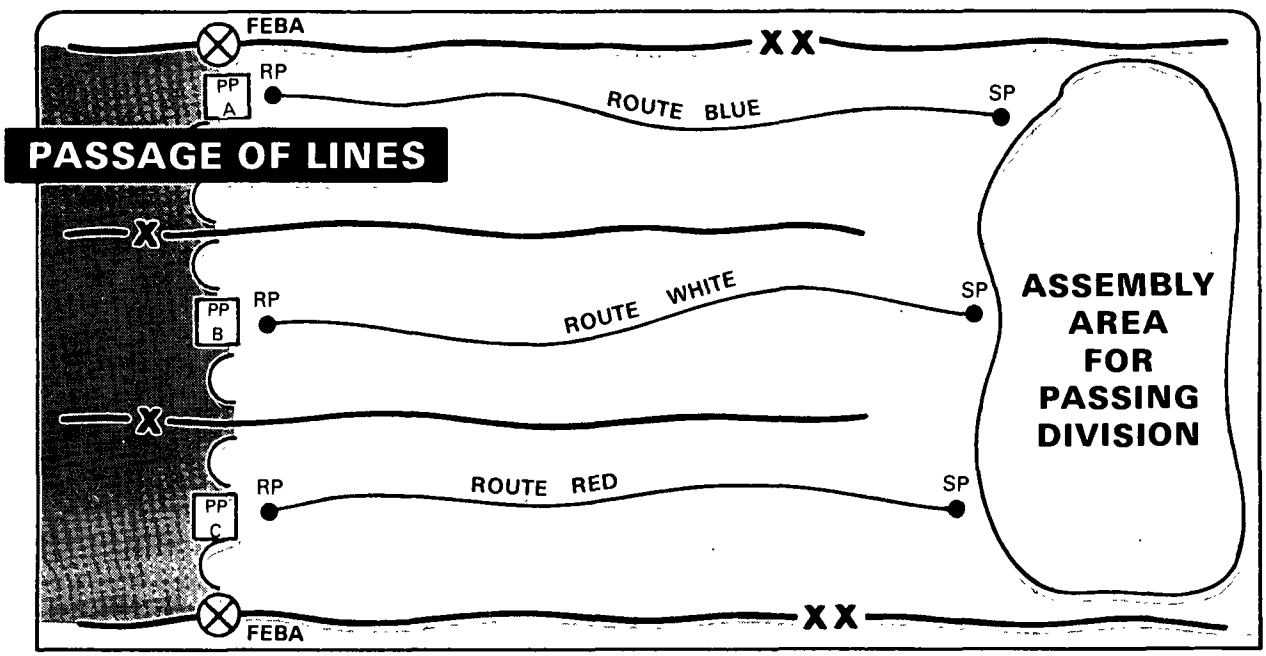
Primary and alternate linkup points for two moving forces are established on boundaries where the two forces are expected to converge.

PASSAGE OF LINES

Forward passage of lines is an operation in which one friendly unit moves forward through positions held by another friendly unit.

Normally, the division prescribes boundaries to designate areas through which its subordinate units will pass. The boundaries are usually those of the stationary force. Specific passage lanes and other details are coordinated between commanders of subordinate units. Stationary force artillery reinforces fires of the attacking force.

Once the operation has started, passage is completed as quickly as possible in order to minimize vulnerability of the two forces. In a forward passage, the moving force must assume control of the battle as soon as its lead elements have passed through the stationary force. During this operation, the moving force must have freedom to maneuver.



RECONNAISSANCE IN FORCE

A reconnaissance in force is an operation to discover and test enemy disposition, composition, and strength to obtain other information, and to develop the situation.

The reconnaissance force is usually tank heavy and must be strong enough to force the enemy to react. A battalion task force or armored cavalry squadron is normally the smallest unit assigned to conduct a reconnaissance in force. The operation is planned and executed like a deliberate attack except for the lack of detailed knowledge of the enemy. The mission most often requires a terrain objective which, if threatened or occupied, will cause the enemy to react. When enemy forces react as expected, the reconnoitering force returns to friendly positions.

Sufficient reserves are maintained to exploit success or any discovered enemy weaknesses or to extricate the force should that become necessary.

SPOILING ATTACKS

Spoiling Attacks are sometimes conducted to destroy a force or a portion of a force preparing to attack. While a spoiling attack is an offensive operation, it is normally conducted while the division is defending. It is conducted much like a hasty attack.

FEINTS AND DEMONSTRATIONS

Feints are shallow, limited objective diversionary attacks normally part of a deception operation. Their purpose is to draw enemy attention and, if possible, forces away from the division's main attack. Units conducting a feint deploy and fight as though their operation is indeed the main effort. If the force penetrates the enemy defensive system, the commander conducting the feint does not exploit unless directed.

Demonstrations are staged to deceive the enemy by a show of force. Although similar to a feint, no contact with the enemy is intended. Decoys, dummy positions, and inoperative equipment may be used in support of the operation. **Feints and demonstrations are further described in FM 90-2, Tactical Deception.**

CHAPTER 5

Defensive Operations

The division conducts defensive operations alone or as part of a corps.

The purpose of defensive operations is to kill enough men and vehicles to convince the enemy that his attack is too costly and that he must break it off. From time to time defensive operations are conducted for other reasons—to concentrate forces elsewhere on the battlefield, to gain time, to preserve forces, facilities or installations, or to control essential terrain.

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As previously described, deployed US Army forces should expect to be outnumbered at the onset of hostilities. One important task of the defender, especially when fighting outnumbered, is to defeat the attacker and survive with a force that is able to continue a coherent military operation. Ideally, this means the defender should destroy each echelon in turn and be able to engage the next with an effective fighting force. If the defender is fixed by the enemy and subsequently destroyed; or if the defending force is so degraded by successive losses as to become ineffective, the battle will be lost.

Armored and mechanized divisions use both their mobility and firepower to best advantage in an *active* defense, economizing forces in less threatened areas to concentrate against main enemy thrusts. It is important to understand that in an active defense, while the division's mission is to defend, some of its subordinate units may be defending while others are attacking, and still others are disengaging to move elsewhere.

The concept of the active defense is to defeat the attacker by confronting him with strong combined arms teams fighting from battle positions organized in depth. As the enemy attack moves into the defended area, it encounters fires of increased intensity delivered from the front and especially the flanks. The defender constantly shifts forces to take maximum advantage of the terrain, and to put himself in a favorable posture to attack. Wherever possible, obstacles are used to stop or slow the enemy attack, especially in areas covered by the defenders' weapons, or where the enemy will be especially vulnerable to attack by the defending force.

When the enemy attack begins to break stride and his elements are exposed, the defender can often destroy even more enemy by attacking. Counterattacks may also be necessary to reoccupy critical terrain. *However, the decision to counterattack must be weighed carefully; for in the counterattack, the defender gives up many of the natural advantages that accrue to him as the defender.*

In order to slow the attack so there will be more time to engage large numbers of targets, the defender may need to occupy certain terrain for extended periods of time. In such cases, strongpoints may be established by companies or battalions. In a well-prepared strongpoint, a unit must hold onto terrain around which the battle pivots, while other units fight from mutually supporting battle positions nearby.

FUNDAMENTALS OF THE DEFENSE

Regardless of why the defense is undertaken or how it is described, several fundamentals govern the conduct of defensive operations. These fundamentals are common to all levels of command, even though their application may vary at each level, depending on the resources available to the commander.

UNDERSTAND THE ENEMY

Commanders must be thoroughly familiar with the capabilities and limitations of enemy weapons and equipment. They must know how enemy units are organized, how the enemy organizes for combat and deploys, and how the enemy fights—in other words, the echelonment and tactics of enemy units.

For the battalion task force and company team, the battle is dominated by direct fire weapon systems, numbers of enemy, and terrain. While these matters are important to the division commander, he must also concern himself with how the enemy employs divisional and army second echelon forces, for these provide the indications of where the main effort is being made.

As in offensive operations, the division commander and his staff must also have a sound understanding of where enemy field and air defense artillery, combat service support, and critical command control facilities can be found. These are the systems the division must destroy so battalion task forces, attack helicopter units, and USAF air support can operate successfully against enemy tactical formations.

SEE THE BATTLEFIELD

Prior to the battle, the defending commander must organize to defeat different types of likely attacks from several feasible directions. He must then undertake aggressive operations to learn where the enemy is, how he is organized, which way he is moving, and what his strength is. As the battle unfolds he must seek to establish a continuous flow of information, and must deny the enemy similar information about his own forces as he maneuvers to counter the enemy and seek an opportunity to attack.

Battalion task force and brigade commanders can seldom see beyond terrain features to their immediate front. A brigade commander needs information about second echelon regiments, while the division commander needs information about second echelon regiments and divisions. To get such information the division commander will turn to his own collection means. Despite his best efforts though, the division commander will almost always have to make decisions based on incomplete data. Therefore, the more he knows about enemy weapons and supporting systems, tactics, psychology, and the terrain, the better his decision will be. Because he will have to rely heavily on resources not under his own control, the commander gives the information-collection effort his personal attention. But despite the importance of this collection effort, it is to no avail unless the acquired information is processed and disseminated in timely fashion to those who need to have it. The urgency of this requirement may demand that the intelligence-fusion process be bypassed. The information may still go through the fusion process, but it must first be passed expeditiously to the waiting commanders. This is particularly important in the defense because the enemy has the initiative and can be expected to employ every deceptive means possible to conceal from the defender the time, place, and strength of his attack.

CONCENTRATE AT THE CRITICAL TIMES AND PLACES

The division commander must decide exactly when and where he will concentrate his forces; hopefully, he does this based on the satisfactory results of his combat information and intelligence-gathering operations. He must also decide how much force will be required to defeat the enemy within the terrain and space limitations of the defensive area.

To defend against enemy breakthrough tactics, the division commander must not only concentrate forces at the right time and place, but he must also take risks on the flanks. A divisional defense which spreads two brigades thinly across a wide area and holds one brigade in reserve for counterattack will likely be defeated piecemeal—it will be too weak everywhere and thus overwhelmed.

It may be necessary to concentrate up to six or eight maneuver battalions on one-fifth of the division's front to meet breakthrough forces which may number 20 to 25 battalions. Remaining ground is then covered with air and ground cavalry, remaining battalions, and attack helicopter units. Should forces and firepower prove inadequate to defeat the enemy, then an effective defense is not possible. When this occurs space must be traded for time by moving to a delay operation.

The division commander must aggressively use the high mobility of his armored and mechanized forces to build up forces rapidly, using units from adjacent areas and from less threatened flanks. With ground units he must make the decision to concentrate fairly early, but not too early. If he makes a mistake and starts to concentrate at the wrong place, he may countermarch his mobile elements many times trying to rectify the error. The high mobility of attack helicopters permits the commander to move them

quickly, concentrating first at one point, then another, without disruptive "countermarching." This fact makes attack helicopter units ideal outfits to go find the enemy early, signal his approach, and fight him—disrupting his attack while the rest of the force concentrates.

Concentration of field artillery is equally important. Field artillery fire can often be concentrated without moving batteries. In extended areas, however, field artillery batteries must be moved to positions within range of the main battle.

Air defense batteries and platoons pose a special problem. The first priority for deployment of division air defense batteries in the defense should be protection of the division command control facilities and operations in the division support area. Some Vulcans may be used to protect forward brigades.

Close air support will normally be required to enable forward engaged elements in the area of a breakthrough attack to engage all the enemy targets that present themselves and to do that in the time and space available. This is particularly so in close terrain, limited visibility, or other conditions which tend to reduce engagement ranges. Under these conditions, *close air support must be applied in mass, in time, and at the critical point, supported by a well planned and conducted air defense suppression operation.*

FIGHT AS A COMBINED ARMS TEAM

As friendly units converge on the critical battle site, brigade commanders commit them to combat according to their weapons' capabilities and movement of the enemy force.

The first increment of combat power available is usually the massed fire of all field artillery in range. Even if artillery fire does not destroy large numbers of armored vehicles, it causes tank crews to button up, reducing their effectiveness. Field artillery can effectively discourage enemy infantry from dismounting to attack defending dug-in antitank weapons. Field artillery can also smoke overwatching forces covering the enemy attack.

The second increment of combat power available could be attack helicopters. Reinforcing at speeds of 125 knots, attack helicopters have a high probability of killing enemy tanks at ranges beyond 3000 meters. Attack helicopters will be most useful when the enemy has moved out from under, at least part of, his air defense umbrella and beyond his preplanned artillery fires.

As tank and mechanized battalions begin to arrive, the brigade commander cross-reinforces as necessary and assigns battle positions and missions to the commanders.

Close air support of engaged forces at critical times and places provides a major increase in combat power quickly. However, effective close air support in the fight against the first echelon has a price—air defense suppression. The defending commander will have to use fires and perhaps even maneuver forces to provide adequate suppression of the extensive and very effective enemy air defenses.

As the battle develops, the commander must move defending forces from one position to another to take maximum advantage of his weapons, the terrain, and mines or obstacles that he has been able to employ. Combat vehicles must be refueled, rearmed, and repaired as far forward as possible and quickly returned to battle.

EXPLOIT THE ADVANTAGES OF THE DEFENDER

The defender's advantages are numerous and permit a numerically inferior force to defeat a much larger attacker. Perhaps the defender's greatest advantage is the opportunity to become intimately familiar with the terrain prior to the battle. The attacker cannot do this. The defender can prepare the ground in advance, building obstacles, firing positions, and improving routes between battle positions. The attacker can only guess at these. The defender can fight from cover while the attacker is in the open. The defender.

can shoot first and force the attacker to react. The defender can shoot from stationary platforms or positions while an attacker must move. The defender can shift forces from prepared position to prepared position swiftly to concentrate for successive engagements. The attacker must feel his way over the terrain, seeing each new compartment for the first time. The defender can plan communications, control measures, fires, and logistical support in advance to fit many predictable situations. The attacker must adhere to a predetermined course of action and risk being outmaneuvered, or must alter his plans as the battle develops and suffer from uncoordinated effort.

Each position should combine the best characteristics of a defense and an ambush. Several positions designed for mutual support should be used to multiply the strength and value of each. The combination of all these advantages repeated in each set of positions in depth, supported by field artillery, offensive air support, and attack helicopters, should enable the defender to inflict very high losses on an attacking enemy.

When the time is right for the defender to attack, strong short counterstrokes against exposed enemy elements are executed. Sweeping counterattacks which expose divisional forces to heavy losses by giving up the significant advantages enjoyed by the defender should be the exception rather than the rule. Such counterattacks should occur only if terrain critical to the defense must be regained. Even then it may be possible to control such terrain by fire alone, thus avoiding a maneuver which increases the vulnerability of the defender while he is attacking.

HOW THE ENEMY ATTACKS

The division should expect to face an attacking combined arms or tank army with four to five divisions supported by air and artillery from its parent *front*. An attacking Threat army usually employs two divisions in the first echelon and two divisions in the second echelon.

One first echelon division is normally designated by the Army commander to conduct a breakthrough attack in the event it becomes necessary to do so; the other first echelon division conducts a supporting attack. The division making the main effort is given a narrow zone, initially 10 to 16 kilometers wide, and is heavily weighted with artillery and logistic support from both army and *front*. It may also have a tank regiment from the army second echelon operating with it.

MOVEMENT TO CONTACT

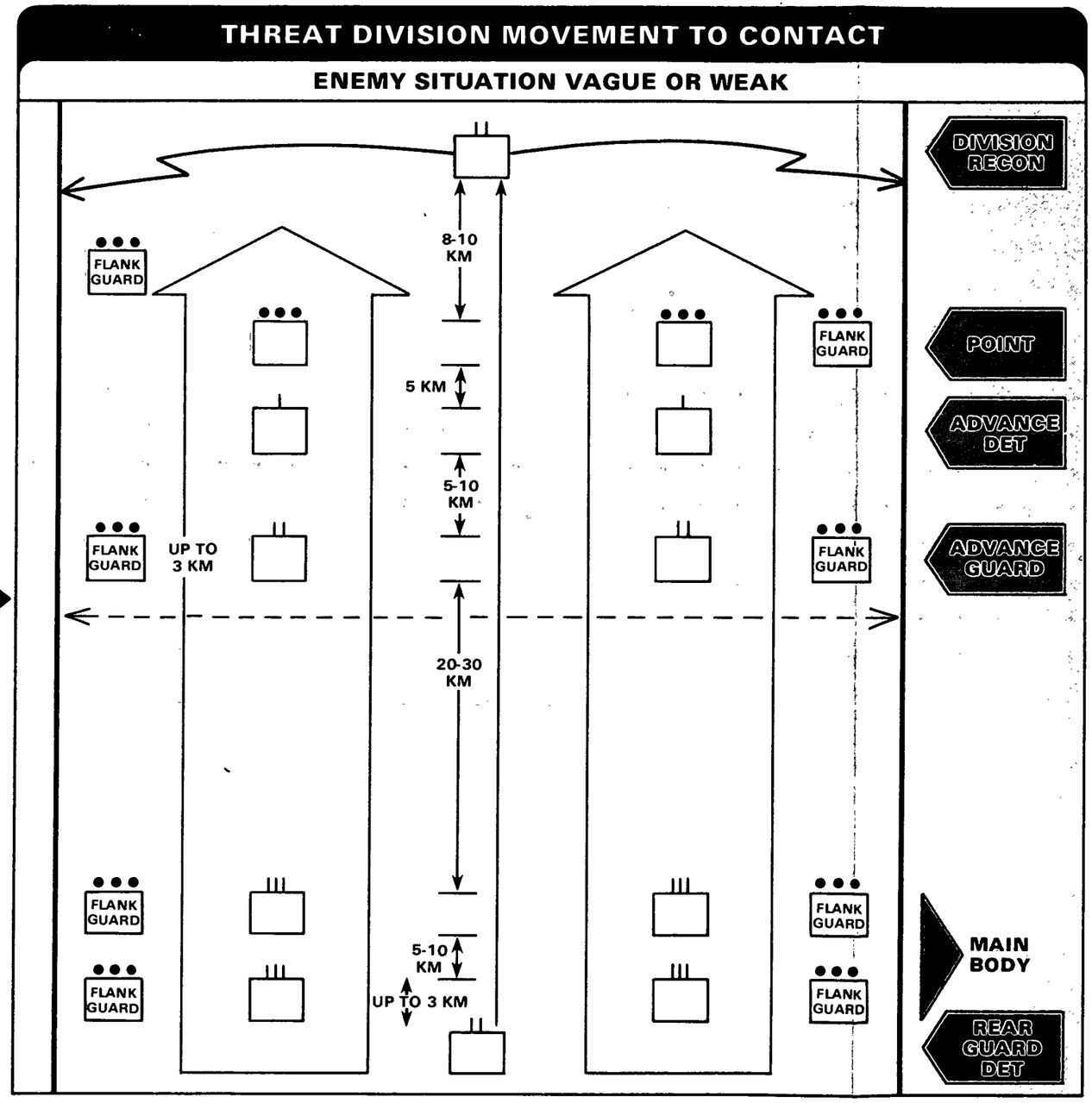
The army attack begins with first echelon divisions moving to contact, often during periods of reduced visibility.

Attacking divisions move over multiple routes until forced to deploy, organized generally as shown.

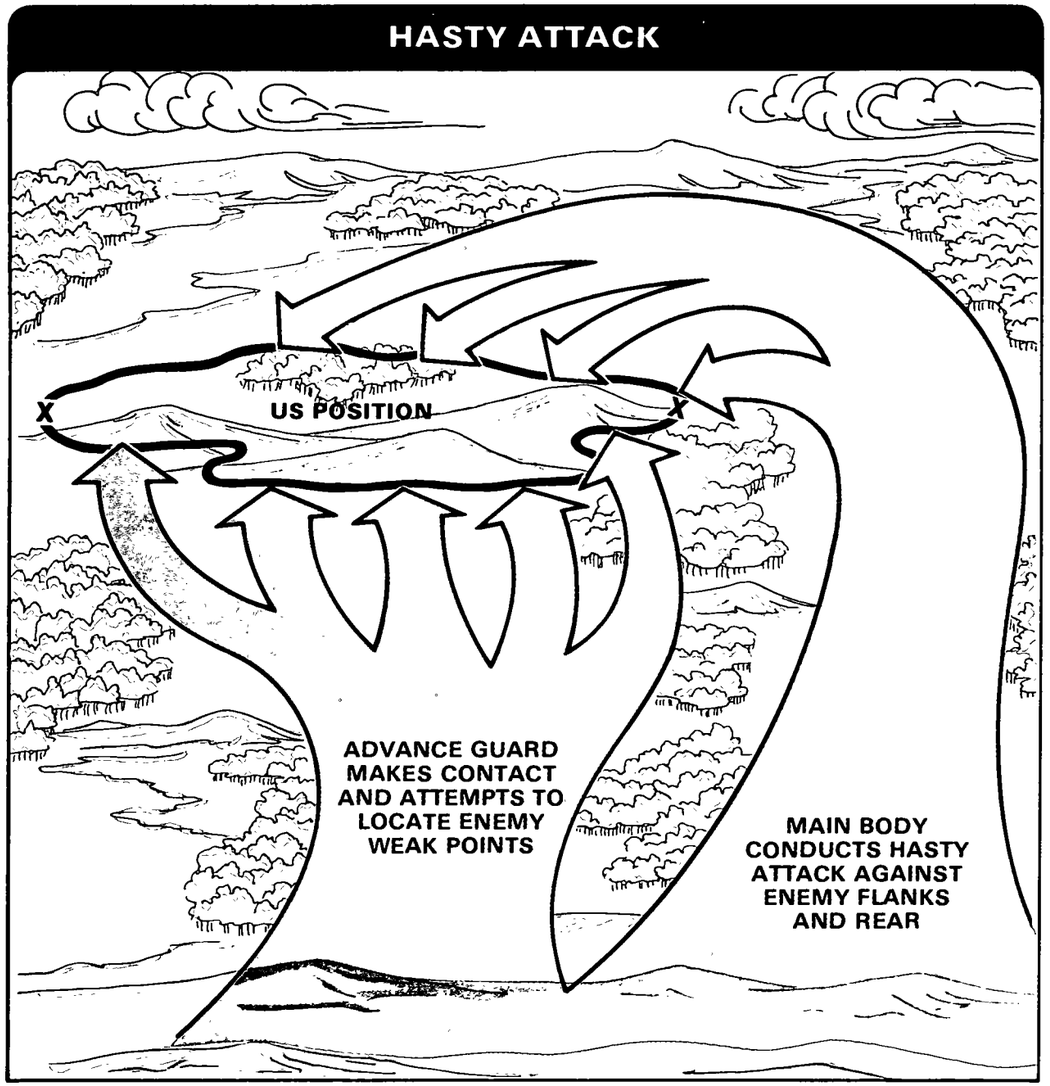
Each first echelon division employs a tank heavy advance guard up to 30 kilometers ahead of the main body. Its purpose is to roll back the defender's covering force and to locate the main battle area. The advance guard for the division making the main effort may be as much as a reinforced regiment from the army second echelon; otherwise, the advance guard is provided by one reinforced battalion from each first echelon regiment.

Mobile air defense, automatic weapons, and low altitude SAM are integrated by individual piece into march columns. High altitude SAM units normally move as a battery and may be integrated into march columns or move along separate routes to insure adequate coverage. Towed AA guns also move as a battery, integrated into march columns.

When contact is made, the advance guard attempts to destroy the enemy force. If not



immediately successful, the advance guard attempts to locate enemy flanks, gaps, and weak points while the main body deploys. The main body then conducts a hasty attack from march column against enemy flanks and rear, supported by all available artillery and air, as shown.



If this proves unsuccessful, the Threat division commander may attempt additional hasty attacks from new directions. If still unsuccessful, he will probably halt and prepare to conduct a breakthrough attack.

BREAKTHROUGH

One first echelon division in each army conducts the breakthrough while the other conducts a supporting attack.

The Threat prefers to conduct the operation from the line of march using the division previously designated for the Army's main effort as the breakthrough division. Under these circumstances, little lateral movement of units is necessary. If a division other than that reinforced for the main effort is selected for the breakthrough, repositioning of artillery and logistical units to support the operation can be time consuming.

Although there is little lateral movement, there may be considerable forward and rearward movement of artillery and ammunition vehicles, as artillery is repositioned and organized into regimental and divisional artillery groups. Each group consists of from two to four battalions. An army artillery group of two to four battalions of 122-mm, 130-mm and 152-mm guns provides counterfire support.

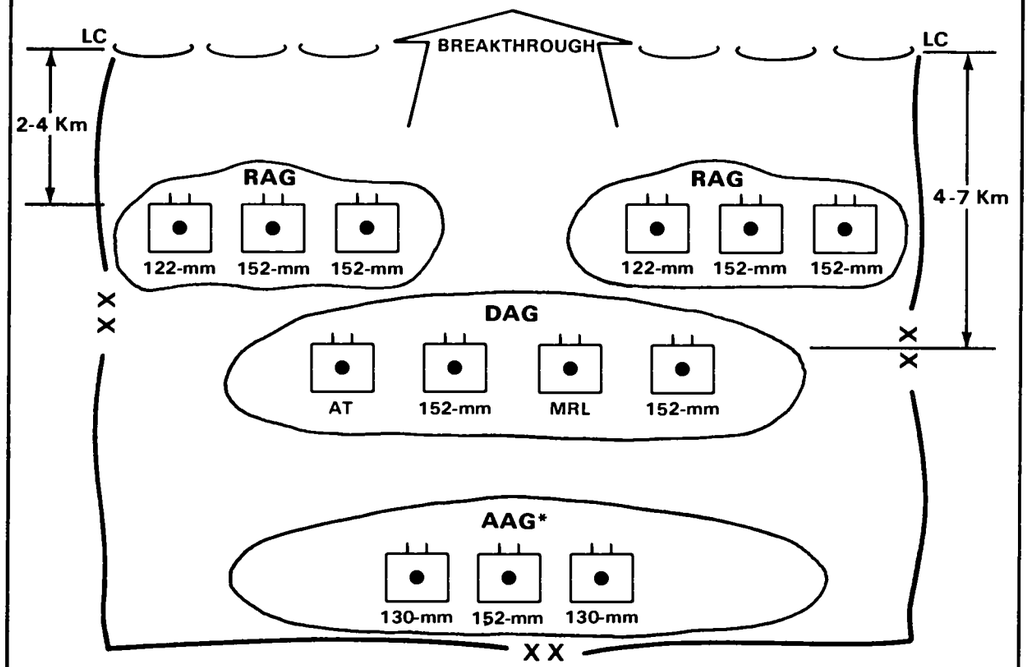
Once the artillery is in position, a massive preparation is fired lasting from 30 minutes to an hour or more. In order to fire the preparation, it is necessary to move considerable ammunition to firing positions. So, large numbers of supply trucks are normally found in the breakthrough zone.

During the preparation, maneuver units deploy into battalion and company columns, gradually narrowing the width of advance. The rate of advance is carefully controlled. When preparatory fires have ceased or have been shifted into the depth of the enemy defense, the assault begins. At this point, the breakthrough division front has narrowed to approximately 4 kilometers.

First echelon regiments try to rupture initial defensive positions, creating a gap in the defense. Tanks normally lead the attack. Motorized rifle troops remain mounted in infantry fighting vehicles and follow immediately behind tanks. If the defense, particularly the antitank defense, is too strong, motorized rifle troops dismount and assault on foot, the BMP providing fire support from the rear.

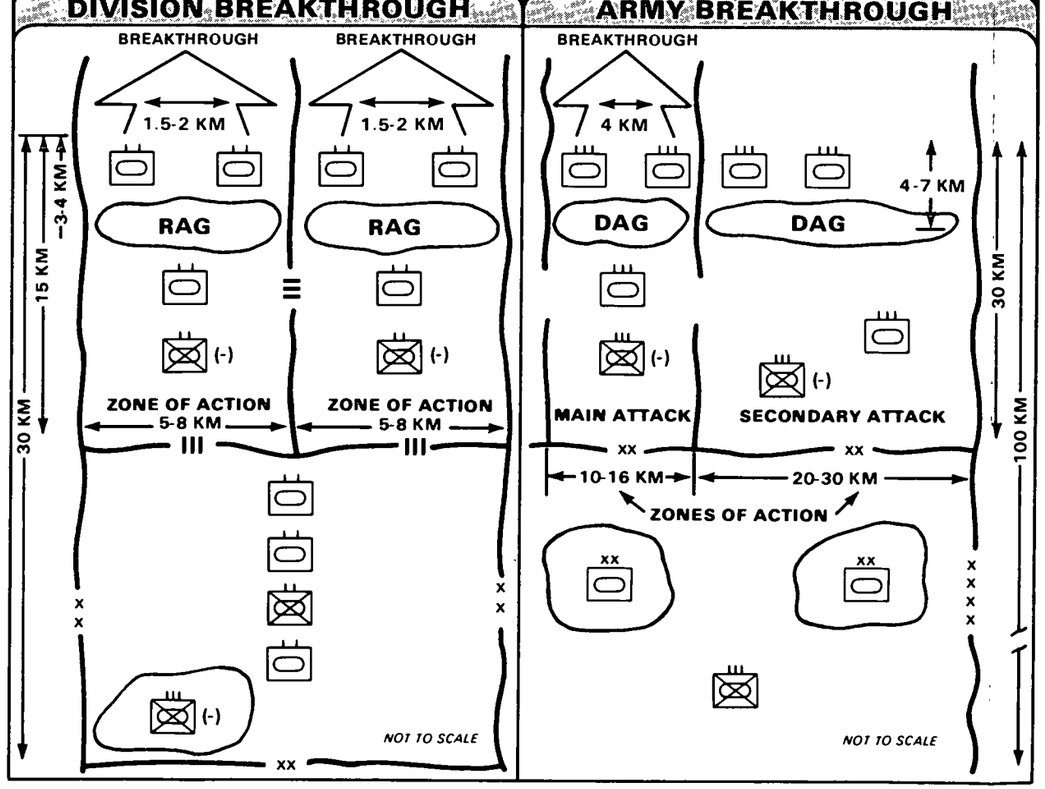
Second echelon regiments of the breakthrough division pass through gaps created by the first echelon, widening the initial breach. If the breakthrough has been successful, a gap of approximately 20 kilometers in the defense should exist.

CONCENTRATION OF ARTILLERY FOR BREAKTHROUGH



*INCLUDES UP TO 4 BATTALIONS OF 122-MM, 130-MM, AND 152-MM ARTILLERY FROM *FRONT* ASSETS. ARTILLERY FORCES ARE DEPLOYED APPROXIMATELY 1-2 HOURS BEFORE THE ARRIVAL OF THE MAIN BODY AT THE LINE OF CONTACT.

THREAT UNITS IN THE BREAKTHROUGH



Second echelon divisions then move forward, pass through the first echelon in order to strike deep into the defender's rear, defeating whatever forces are there, destroying or capturing command posts, depots, and communication facilities.

If the breakthrough division is not successful, the front commander may:

- **Continue the attack, using second echelon divisions,**
- **Transfer the main effort to a sector that is enjoying more success, or**
- **Order a halt to the attack, establish a defense, withdraw breakthrough divisions, and conduct a reassessment of *front* capabilities.**

If the breakthrough successfully disrupts the defense, *front* second echelon tank or combined arms armies are committed through gaps to exploit initial successes. Once into the enemy's rear, divisions move out in column or multiple routes, as in a movement to contact.

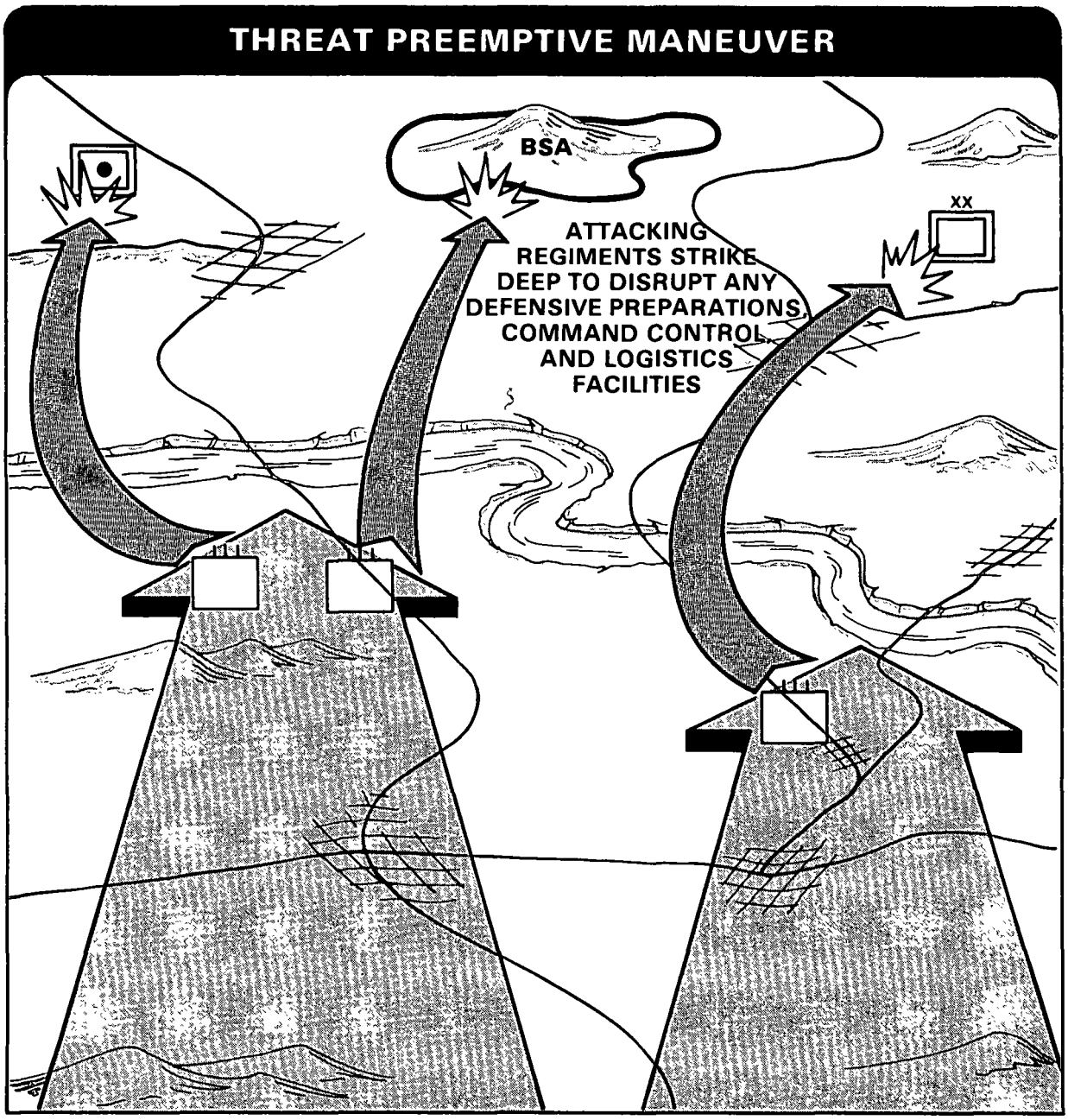
PREEMPTIVE MANEUVER

The Threat has long emphasized the singular advantage that can be gained by surprise. Threat forces are therefore trained in techniques designed to achieve surprise—active and passive operations and communications security measures, deception measures, operations in darkness, bad weather, or smoke. All are extensively documented and widely practiced.

To Threat commanders, surprise is a way of reducing losses. Simply put, surprise can be a substitute for mass. By using surprise one can reduce losses expected in an attack against well set up defenses that feature deep belts of defending antiarmor forces.

In a preemptive maneuver the operative tactic is deep thrust. A preemptive maneuver may be launched by several regiments con-

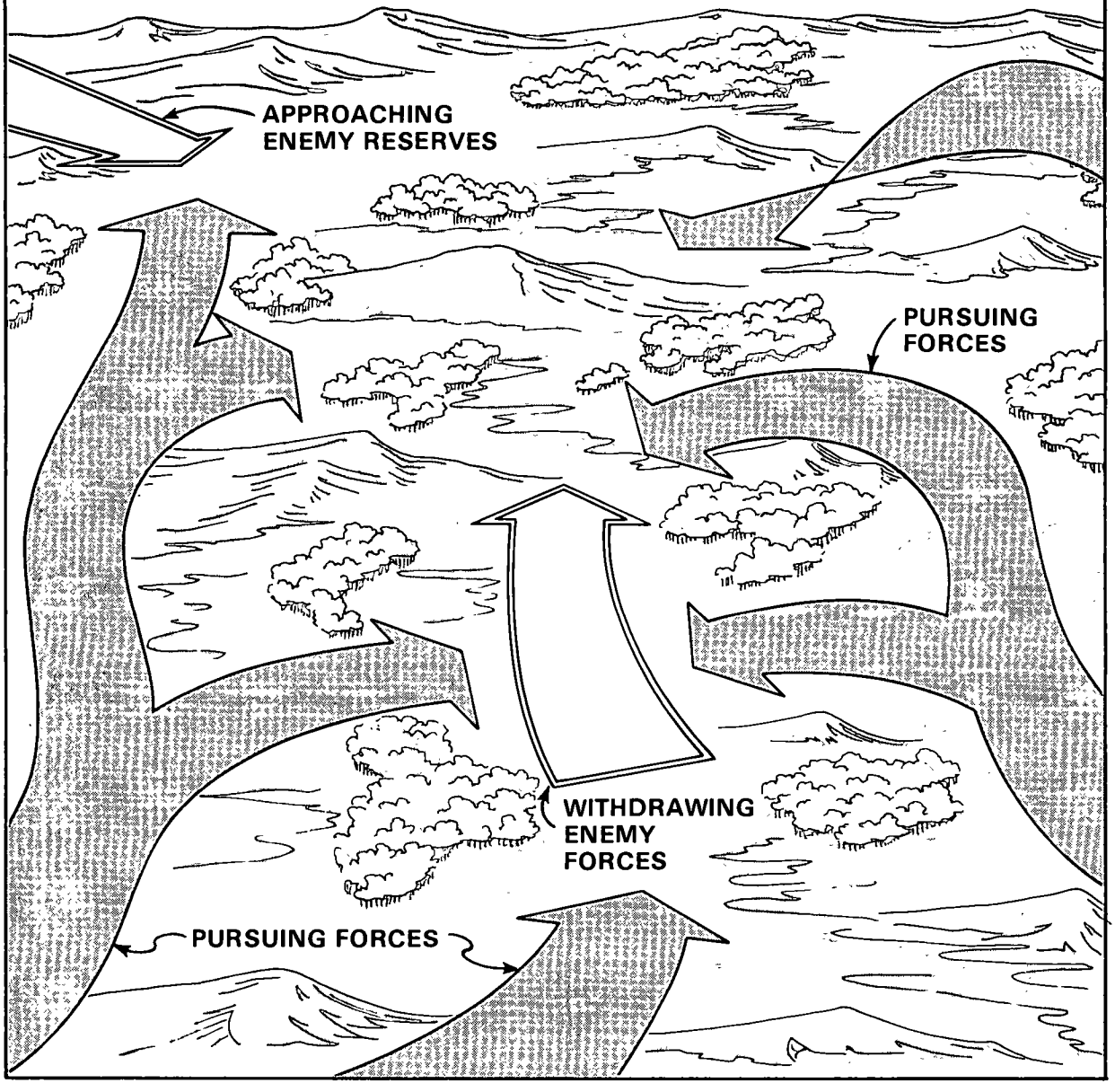
ducting deep thrusts on multiple axes—regimental axes reinforced by attack helicopters, field artillery, and perhaps surface-to-air missile units. Using all measures to achieve surprise, a preemptive maneuver calls for the attacker to: attack before the defenses can get "set," strike deep to establish the depth of a penetration, engage the defender in a series of meeting engagements before his forces can take up good defensive positions, and disrupt defensive preparations by attacking vulnerable command control and logistics facilities. Having caught the enemy off guard, follow on forces move into the penetration to destroy bypassed enemy units and to generally exploit success.



THE PURSUIT

The Threat considers the pursuit an offensive operation designed to complete the destruction of the enemy. Rather than follow a retreating enemy, pursuing units move along routes parallel to the enemy's retreat, attempting to out distance elements of the enemy force, cut withdrawing columns into segments, and destroy them. Helicopters are employed to locate and engage retreating units and guide pursuing forces. Airborne, airlanded, and airmobile forces are used to control critical terrain and block or slow down enemy withdrawal.

A TYPICAL THREAT PURSUIT OPERATION



COMBAT SERVICE SUPPORT

Threat forces plan combat service support for offensive operations in great detail. Resources are centralized and large quantities of supplies are prestocked well forward. Transportation resources are rigidly centralized in order to complete logistical buildups efficiently and promptly. Motor transportation is organized into groups for timely shifting of supplies during the attack.

Ammunition is prestocked at firing positions and well-stocked divisional and regimental dumps are established, as are advanced and main army supply bases. First echelon divisions, augmented by army transportation or second echelon divisional transportation, supply themselves from army supply bases. Army transportation simultaneously hauls supplies from *front* supply bases to advanced army supply bases established in the rear area of first echelon divisions. *Front* motor transportation hauls supplies to the army supply bases from the *front* base. As combat units advance, army and *front* supply bases displace forward to insure uninterrupted support. Army mobile supply columns follow behind first echelon divisions. Divisional transportation, augmented in some cases by army, is sufficient to transport ammunition, POL, and rations to support operations for approximately five days.

COMMAND CONTROL

Command control is exercised from a series of command posts. The distance between them is planned so that not more than one command post may be put out of action by a single-medium-yield nuclear weapon. Command posts are generally well defended against air attacks, but are not usually well defended against ground attacks.

The commander decides where command posts are to be established and the axis along which they will move. *Front* and army headquarters are generally sited in depth in order to maintain control of their entire areas. As a general rule, a forward command post is established at the rear of the next lower commander's first echelon. Divisional and regimental headquarters are located well forward in order to maintain control of the battle.

During the course of lengthy moves, command posts may leapfrog forward along different routes. They are preceded by small reconnaissance parties that select new locations and guide traffic. While on the move, command posts maintain continuous radio contact with subordinate units, higher headquarters, and flanking units. Normally an alternate command post moves behind the MAIN, prepared to take over control if required.

PREPARING FOR DEFENSIVE OPERATIONS

The division prepares for defensive operations generally as described in Chapter 3, *Preparation for Combat Operations.* The commander estimates the situation and appropriate appraisals are provided by the staff. He then decides what is to be done and sets forth his concept of the operation. The staff issues orders to subordinate units.

The commander should describe his concept of the operation in the detail necessary for his staff and subordinate commanders to understand precisely what he intends with regard to fighting the battle. As a minimum, it is necessary to describe:

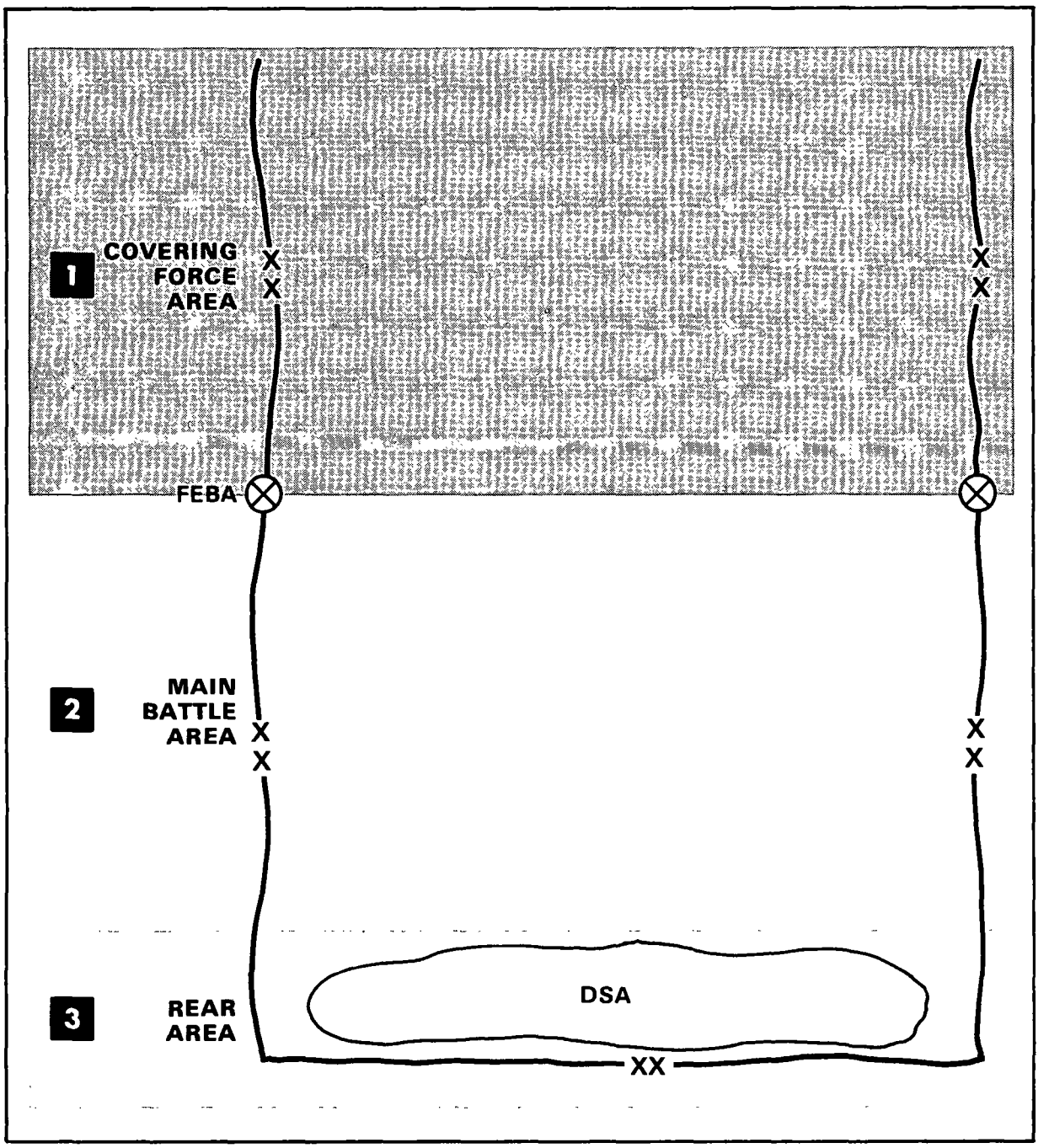
- **where the defense is to be conducted;**
- **task organization of the covering force, where it is to fight, what it is to do, when it is to be in position, and how it is to be controlled; (When it is necessary to hold the enemy forward of the main battle area for a specific time to provide for preparation of the main battle area, the division commander must specify how much time he needs.); and**
- **task organization of the main battle area forces, where they are to fight, when they are to be in position, and how they are to be controlled.**

DIVISION DEFENSIVE AREA

The division commander is usually told by the corps commander where and when he will defend and he is given an area in which to operate.

The defense should be planned in as much depth as time and resources permit. The battlefield is normally organized into three areas:

1 Covering Force Area, 2 Main Battle Area, 3 and Rear Area, as shown:



1

Covering Force Area (CFA). The CFA begins along the line of contact and extends rearward to the forward edge of the main battle area (FEBA). The mission of the covering force is to go find the enemy and fight him with sufficient force to cause him to deploy, plan an attack, concentrate forces to attack, and thus reveal the location and direction of his main effort. This must be done sufficiently far forward to permit forces in the main battle area to concentrate to destroy the enemy main effort. In order to do this, the covering force must strip away enemy reconnaissance units, defeat the advance guard, force the enemy to deploy his main body, and cause the enemy to bring up artillery and second echelon forces to organize a deliberate attack. As the enemy shifts forces, brings up artillery, and masses for a main attack, he will reveal how strong he is and where he intends to attack. A covering force also seeks to keep the actual location of the main battle area from the enemy. To do this the covering force may have to fight forward of the main battle area (MBA) until a specified time so that MBA preparations can be completed. When this is so, that time must be stated, along with other instructions, in the covering force mission.

The covering force takes up the fight as far forward of the MBA as possible. Its battalions and squadrons fight from a series of coordinated, mutually supporting battle positions. These positions are sited to make maximum use of protection offered by the terrain and are designed to minimize the vulnerability of the defender's weapon systems while maximizing their effectiveness. Therefore, to units in the covering force itself, the battle is very much like the action of any battalion in the MBA. When directed to do so, the covering force hands off the enemy to MBA forces, then moves to a designated area in the MBA and prepares for operations there. Normally this will be a battle position deeper in the MBA, where there will be some time to rearm, refuel, reorganize, and prepare to fight again.

Thus, we find the covering force with a tough job. It must first find the enemy, then draw him into the fight in such a way that his main body has to deploy to attack. *To do this it is necessary to disrupt the basic elements of the offensive doctrine of enemy forces—mass and momentum.* Both can be denied the enemy, but it is quite clear the task will not be easy. Indeed, it may well be necessary for the covering force to attack vigorously, either to destroy reconnaissance or advance guard elements, or to divert enemy pressure from one area to another, thus dissipating mass and moderating momentum.

It is obvious that the size and composition of the covering force depends on the mission, enemy, terrain, and forces available. These factors take on added significance and complexity depending on the attack mode chosen by the enemy, depth of the area available for covering force operations, and the time required by MBA defenders to get set for action. *The covering force is normally tank heavy.* A covering force operating in front of a division could well consist of up to four or five tank heavy battalion task forces or cavalry squadrons, attack helicopter, field artillery, air defense, and engineer units. The covering force may be controlled by either the division or corps. Provisions must be made to change command arrangements in the course of battle as enemy strength and intentions are developed.

2

Main Battle Area. The decisive battle is fought in the main battle area where forces are concentrated to destroy the enemy main attack. As a result of concentration, forces will usually be unequally distributed laterally.

Thus, there will be differences in the way combat forces fight the defensive battle, depending upon whether they are in the area where forces are concentrated or in the area where forces are economized. In the main battle area, tank heavy task forces are concentrated in depth along the major avenues of approach into the area to be defended. However, some main battle area brigades can expect to be organized initially

with mechanized infantry heavy task forces in situations where a strong covering force is established. Task forces from the covering force join the fight in the MBA when they become available.

3

Rear Area. Divisions will control the area and forces behind brigades. The division main command post and supporting units not located in the MBA are normally located in the division rear. Since units in reserve will usually be committed to the fight in the MBA by placing them under the operational control of brigades, they will normally be located in the MBA from the outset.

Sometimes it may be necessary to establish boundaries to facilitate command control. However, brigades often fight in battle areas which are, in turn, composed of battalion battle areas or battle positions. Therefore, brigade boundaries may not have to be established at all. Position areas designated to the rear of brigade battle areas may be established. These position areas will serve to designate the location of units, activities, agencies, and facilities located there.

ORGANIZING THE DEFENSE

When the division takes up an active defense, forces must be fitted to the terrain. To do this, it is first necessary to thoroughly study the terrain over which the battle is expected to be fought. Personal reconnaissance is essential. All avenues of approach into the division area are clearly identified. Terrain which can slow or block lateral and forward movement of enemy forces is also identified. Threat doctrine prescribes advances averaging 30-50 kilometers per day under non-nuclear conditions. Threat division objectives would therefore be deep in the division area. Avenues of approach must be identified with this in mind. To achieve the prescribed rate of advance, Threat forces depend heavily on mass and momentum. Therefore, the most likely avenues of approach are those which will accommodate formations of regimental size and larger.

Once avenues of approach have been identified, it is necessary to determine the number of weapon systems required to defeat enemy forces that can be deployed along each avenue of approach. This determination is based on two factors:

1 Maximum number of weapon systems the enemy can deploy at one time on a given avenue of approach, and the length of time this target array will be exposed (this evaluation is based upon thorough knowledge of enemy organization and tactics, careful study of the terrain along each avenue of approach, and a reasonable estimate of the effect of obstacles in the area).

2 Rates of fire and the capabilities of defending weapon systems to kill enemy vehicles at ranges within which they will be exposed.

While the exact outcome of battle cannot be predicted, these factors can be used to determine the general number of weapon systems required to defeat the enemy along a specific avenue of approach. They also provide an indication of ways to improve the defense along an avenue of approach.

Based on the general number of weapon systems necessary to defeat the enemy, battalions and squadrons are allocated in task organized defending forces.

Organization of the Covering Force Area. The corps will specify if the division is to organize a covering force or if the corps will do so. When corps organizes the covering force under corps control, the division may provide some forces to corps for that purpose.

When the division is responsible for covering force operations, the commander should expect to receive one or two armored cavalry squadrons from corps regimental cavalry. In any case, *the covering force is organized around cavalry and tank heavy battalion task forces in sufficient strength to fight a major battle in order to determine where and in what strength the enemy main effort will be made.*

Field artillery battalions are attached to or placed in support of the covering forces in representative calibers. As a general rule, one medium battalion per regimental size enemy avenue of approach is necessary. One or two heavy battalions should also be provided to support the covering force. Additional medium battalions may be provided depending on the mission, forces available, and the enemy that can be accommodated on each avenue.

When the division organizes a covering force, field artillery support may be controlled by forming battalion groups, by division artillery headquarters, or by a field artillery brigade which would have to be provided by corps.

Some *air defense artillery* is also positioned to support the covering force. CHAPARRAL and HAWK units are not normally employed in support of the covering force. Rather, they are positioned to protect critical command control and combat service support installations in the main battle area. However, VULCAN platoons will operate in the covering force area. Their primary mission there will be to shoot down enemy attack helicopters and remotely piloted vehicles.

When sufficient time and engineer forces are available, *engineers* operate in the covering force area to emplace obstacles and minefields to reinforce natural terrain obstacles.

Combat electronic warfare and intelligence battalion ground surveillance radars and remote sensor teams also operate with the covering force, as do collection and jamming platoons. Electronic warfare operations are conducted to locate the enemy main effort and to locate enemy jammers so they can be destroyed. Jamming operations are conducted against enemy electronic command and weapon control systems in accordance with priorities established by the division commander.

Combat service support is provided well forward as described in Chapter 7, *Combat Service Support Operations.*

CONTROL OF COVERING FORCES

A divisional covering force may be controlled in several different ways:

the division commander may control it using a tactical command post;

he may designate an assistant division commander to command the force and provide a small staff to assist him; or

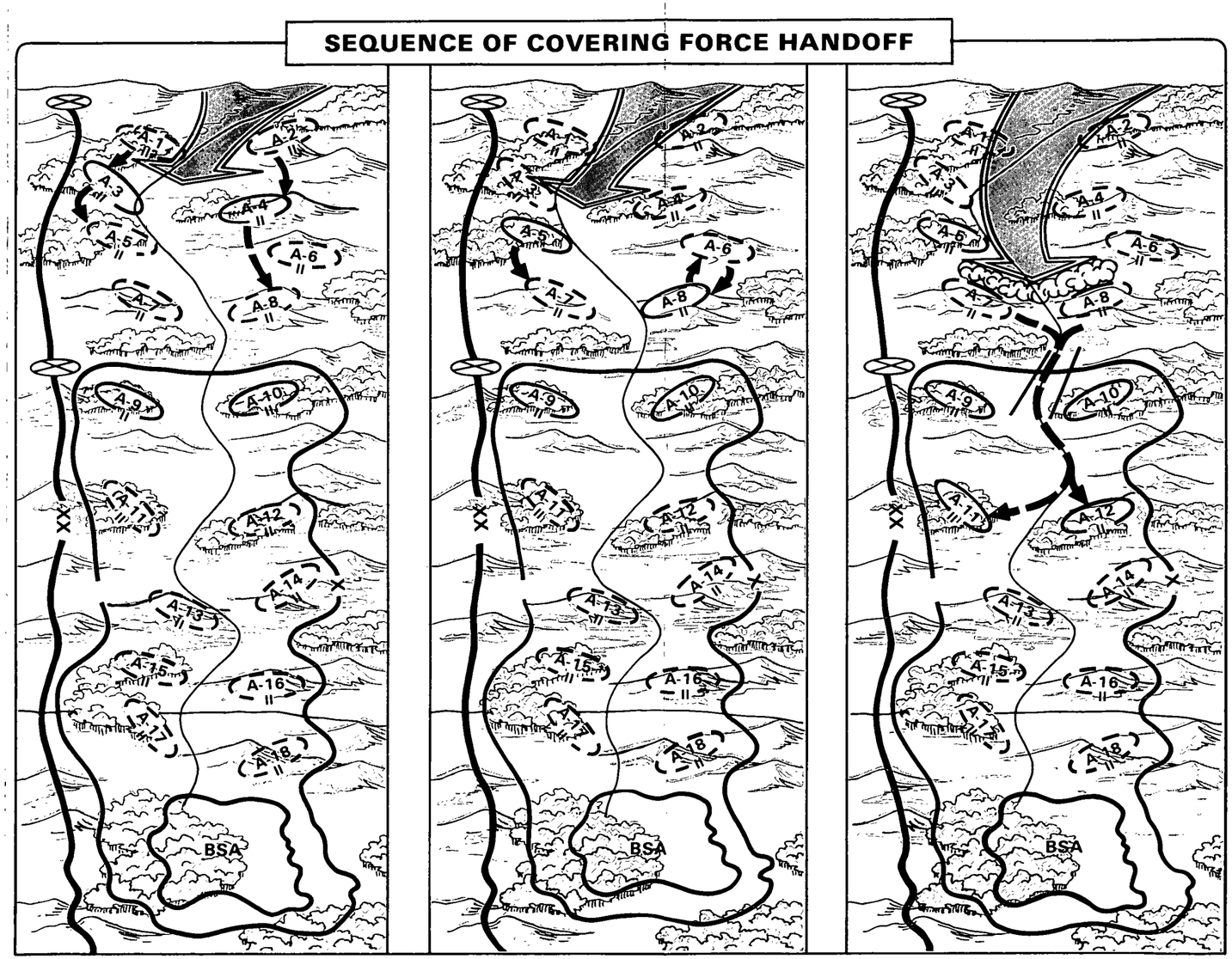
brigade commanders may control that portion of the covering force operating forward of their MBA positions.

The level of command used for controlling a covering force generally depends on several factors. These include the width and depth of the covering force area, the commander's ability to communicate with subordinate units, and the number of battalion size units operating in the covering force area.

Control of the covering force by the division commander, as opposed to control by a brigade commander, is the normal mode of operation. This is so because it allows him to be in a position to see the battlefield from the outset. In any case, MBA brigades normally assume control of covering force elements forward of the MBA as they move toward their MBA positions prior to passage of the covering force into the MBA. So, procedures for passage of control to forward brigades must be established.

The details of passage of control are much like those for a relief in place, described on p. 5-28. Normally, the division prescribes units through which its subordinate units will pass. Specific passage lanes and other details as necessary are coordinated between subordinate units.

Covering forces must retain freedom to maneuver prior to passage of control. When MBA forces assume control of the battle, it is important that they have freedom to maneuver. And when this occurs, the covering force passes through MBA forces as quickly as possible to minimize vulnerability of both.



Organization of the Main Battle Area. Once the division commander has determined where he intends to employ his forces, brigades are designated to control the battalions defending in the MBA. The division commander designates battle areas in which brigade commanders are expected to fight their forces. Brigade commanders organize tank and mechanized battalions for combat in battle positions as described in Chapter 3, *Preparation for Combat Operations.*

Generally, tanks overwatched by long-range antitank weapons are employed in more open terrain; short-range antitank and other infantry weapons are employed in urban, wooded, or less trafficable areas. *The decision on how to cross-reinforce, or whether to do so, depends upon how the commander decides to fight the battle.* The brigade commander may decide to use tank and mechanized infantry battalions without cross-reinforcing. However, repeated requirements for close interaction of tanks and mechanized infantry will normally lead the brigade commander to organize and employ cross-reinforced battalion task forces.

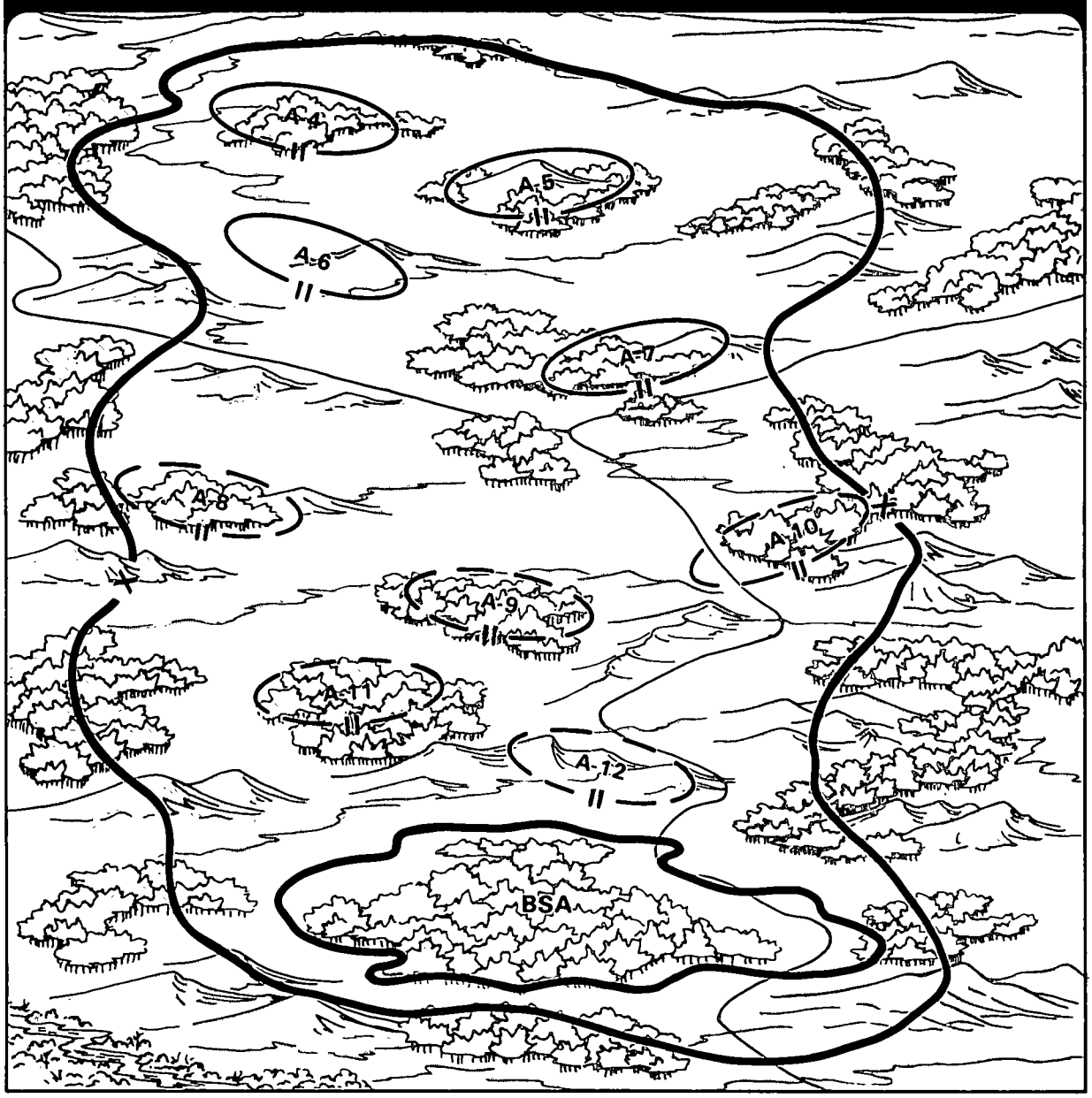
Brigade and battalion commanders plan and reconnoiter battle areas and positions in depth throughout their operational areas. Battle positions can be selected for occupation by units as large as a battalion task force and as small as a platoon. Brigade and battalion commanders direct the fight by specifying which battle position their units will occupy and what they will do there—defend, support, attack by fire, block.

EVERY EFFORT MUST BE MADE TO INSURE BATTLE POSITIONS PROVIDE UNOBSTRUCTED FIELDS OF FIRE

Battle positions must provide unobstructed fields of fire into places where the enemy will likely be. Where such fields are not naturally provided, fields of fire must be created. *It is highly desirable to choose positions from which flanking fire can be delivered at optimum weapon ranges.* At the same time, battle positions must provide cover from fires of following enemy echelons, concealment, and adequate concealed routes in and out so that units can occupy them quickly without unnecessary exposure, then vacate them when they have completed an engagement.

When possible, long-range antitank weapons and missile firing tanks are located to engage enemy forces beyond 2000 meters, conventional gun tanks to engage in 1500-2500 meter range, and shorter range antitank systems to engage as near as possible to their maximum effective range. These weapons are used to engage an enemy from one set of firing positions, then move to alternate ones or to new battle positions as the enemy fires and maneuvers in return. *Capitalizing on surprise fire and first-shot advantage, each weapon in range must hit one or two enemy vehicles in each engagement, then relocate quickly before return fire can fix or destroy it in position.*

TYPICAL BRIGADE BATTLE AREA



Every advantage offered by the terrain is used. Natural obstacles must be reinforced, extended, and, at critical times, covered by fire. Development of obstacles which tend to force an attacking enemy away from cover and concealment and into open ground should be a high priority.

Battle positions are occupied, vacated, and reoccupied as the battle develops. The division commander and his brigade commanders plan the maneuver of battalion task forces from one battle position to several others. So, when the battle commences, forces can be concentrated quickly and redirected to another area of concentration just as quickly.

Once the covering force has passed into the main battle area, its units are redistributed to defending brigades. Since the defender cannot be strong everywhere, some risks must be taken. This is particularly true when forces are moved to concentrate against the main enemy effort. Less threatened areas can be covered by air and ground cavalry, attack helicopter units, or by battalion task forces operating over wider areas. Ground surveillance radars, remote sensors, and obstacles can also be used to advantage where forces are economized.

A medium *field artillery battalion* normally is in direct support of each defending brigade. Infrequently, field artillery battalions may provide direct support to battalion task forces in highly threatened areas. Other divisional field artillery battalions, and those provided by corps, reinforce or provide general support to the force as a whole.

Counterfire operations are controlled by the division artillery commander. As a general rule, *there will be insufficient field artillery to immediately respond to all battalion task force requirements and meet counterfire requirements at the same time.* So, the division commander sets priorities for distribution of field artillery fires to guide the division artillery commander. Offensive air support aircraft are also an effective counterfire weapon system and should be integrated into counterfire operations.

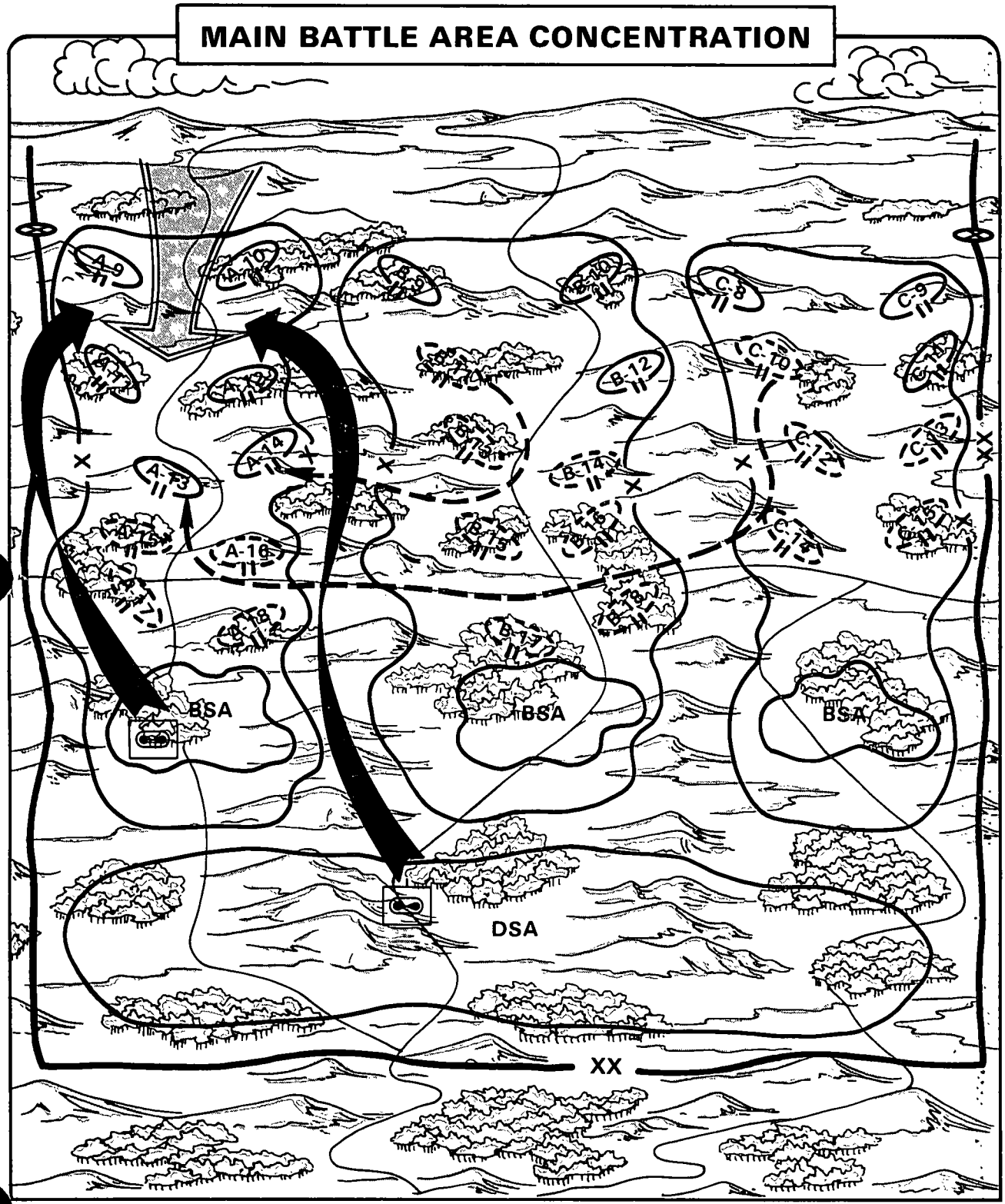
As described in chapter 3, *Preparation for Combat Operations,* the division will normally develop a nuclear weapon subpackage for each corps contingency package. Nuclear weapons should be targeted against second echelon regiments of first echelon divisions, second echelon divisions, nuclear delivery and air defense systems, command control systems and combat service support installations. Chemical weapons may also be planned against these targets.

The division generally has insufficient *air defense artillery* to cover the entire MBA. So, air defense units must be allocated in accordance with the division commander's priorities. Dedicated support should be provided to critical installations such as command posts, combat service support areas, reserves, and field artillery battalions. Air defense units from the covering force are integrated into the air defense scheme when the covering force passes into the MBA.

Divisional engineer units concentrate their efforts forward in support of brigades. Artificial obstacles are emplaced to reinforce natural terrain, strengthening the defense. Slowing the enemy's rate of advance, in order to engage his tanks and other armored vehicles is particularly important. Engineers also assist combat units in the preparation of fighting positions and routes to provide for lateral movement by the defender, and to close routes when no longer needed.

Some corps engineer units operate in support of the division. Corps engineers should be used to maintain lines of communication and to provide other necessary engineer support throughout the division area.

As in the CFA the combat electronic warfare and intelligence battalion operates to locate enemy electronic command and weapon control systems. Collection and jamming platoons and ground surveillance radars operate forward with brigades. Airborne monitors stand off further to the rear. Electronic support means are concentrated to locate enemy field artillery and regimental headquarters. Location of enemy air defense weapons is also important so they can be suppressed in order that attack helicopters and close air support aircraft can operate.


MAIN BATTLE AREA CONCENTRATION
A-9
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-17
A-18
B-10
B-11
B-12
B-13
B-14
B-15
B-16
B-17
B-18
C-8
C-9
C-10
C-11
C-12
C-13
C-14
C-15
BSA
BSA
BSA
DSA
XX

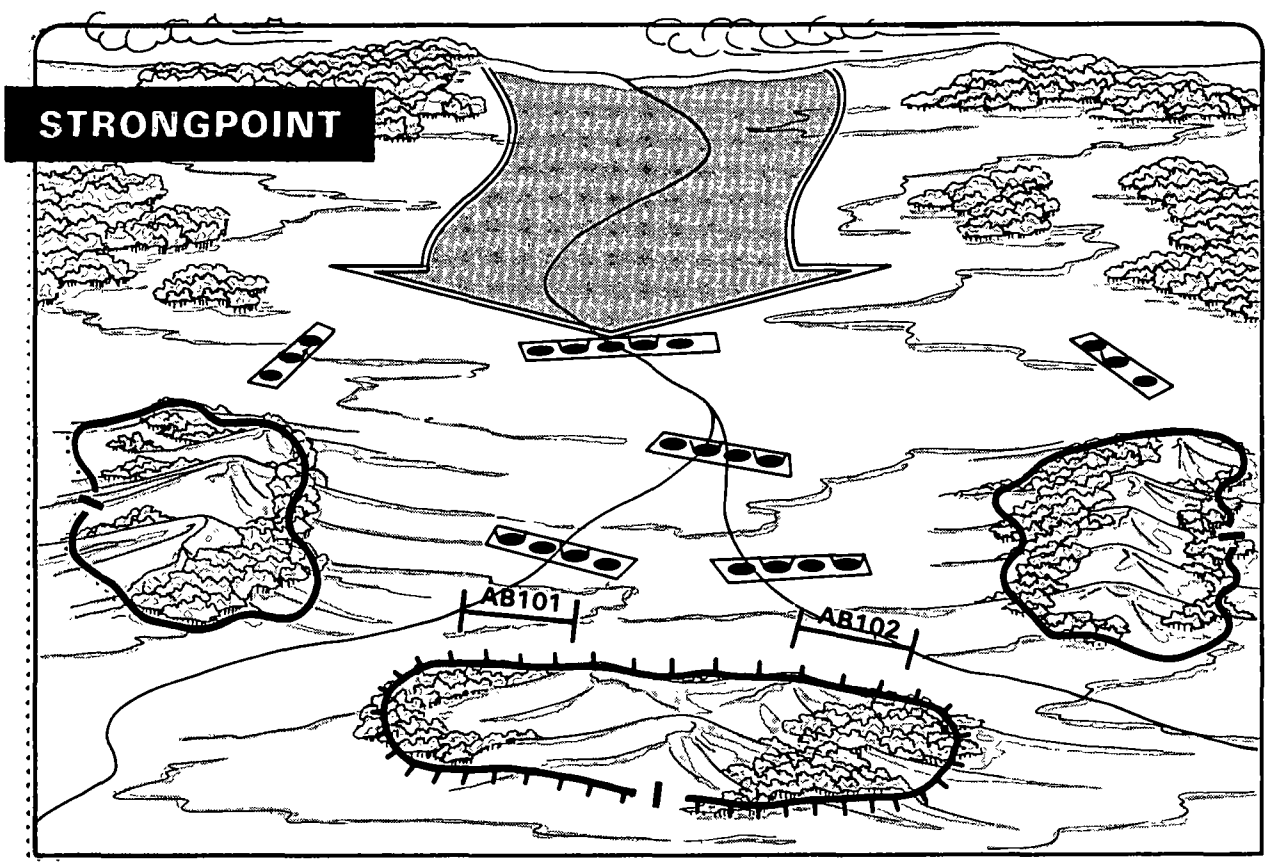
Strongpoints. In some cases, division or brigade commanders may direct that a strongpoint be emplaced by a mechanized unit—usually a battalion.

The strongpoint is essentially an antitank "nest" which cannot be quickly overrun or bypassed by tanks, and which can be reduced by enemy infantry only with the expenditure of much time and overwhelming forces. A strongpoint is located on a terrain feature critical to the defense, or one which must be denied to the enemy. It is the cork in a bottleneck formed by terrain, obstacles, and units.

A strongpoint position should be fortified as extensively as time and materials permit. All weapons should be dug in with overhead cover in primary and alternate positions. Communications trenches and wire lines should be installed to permit control of forces and some movement of weapons under fire. Indirect supporting fires should be planned in detail.

A strongpoint is not routinely established. It is established only after the commander determines that a strongpoint is absolutely necessary to slow the enemy or prevent a penetration of his defensive system. The decision to do so must be carefully weighed.

- **Considerable time, barrier material, and engineer support is necessary to develop an effective strongpoint.**
- **The force that establishes the strongpoint may become isolated or lost.**
- **The force that establishes the strongpoint loses its freedom to maneuver outside the strongpoint.**
- **The force that establishes the strongpoint must be given sufficient time to build the position—the more time the better.**



Counterattack. Offensive action is necessary to gain the initiative, maintain the continuity of the defense, and reposition forces to defeat following enemy echelons. The division should counterattack whenever there is an opportunity to destroy enemy units. A counterattack may be controlled by division, brigade, or battalion. Some counterattacks are planned and executed rapidly. *In any event it is necessary to concentrate sufficient combat power to destroy the enemy force; for when reversing the situation and becoming the attacker, some of the defender's advantages are forfeited.*

When counterattacking, units maneuver only to the extent necessary to place effective fire on the enemy. Most often, this will only require movement along covered routes from one battle position to another. Counterattacking forces must complete their tasks and regain covered positions before overwatching or following enemy echelons can interfere. They close with a weakened enemy force only when absolutely necessary to destroy it.

WHEN COUNTERATTACKING, UNITS GENERALLY MANEUVER ONLY TO THE EXTENT NECESSARY TO PLACE EFFECTIVE FIRE ON THE ENEMY

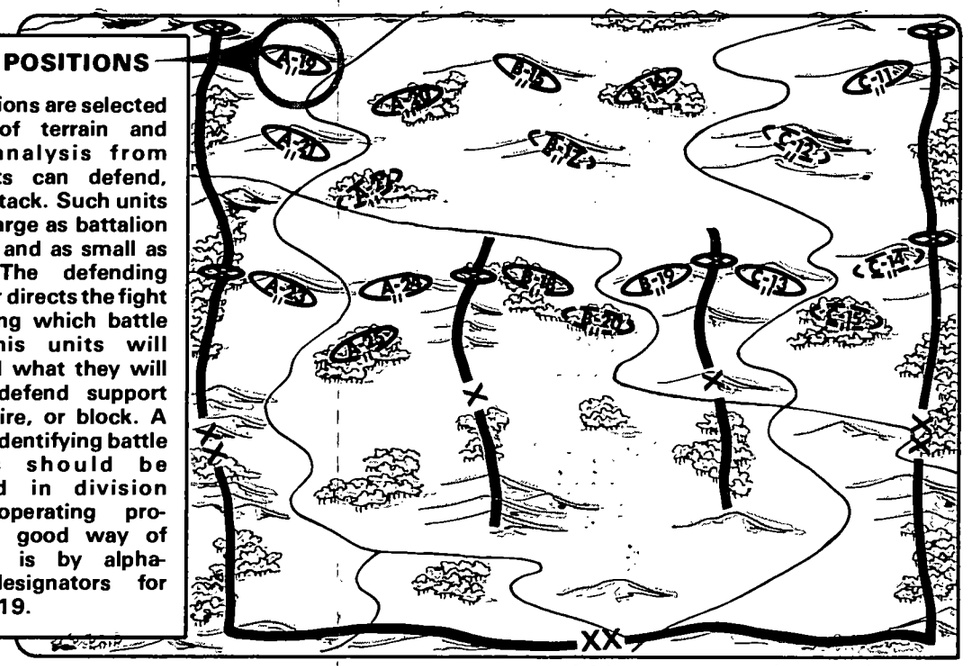
In planning a counterattack, the commander must evaluate the enemy situation in the immediate area and carefully calculate the time and distance factors relating to the following enemy echelon. Then he must determine which units are available, where they are located, where they must be positioned after the counterattack, and what suppression is necessary to isolate the enemy to be attacked.

Reserve. In a division, reserves are normally provided by uncommitted units—primarily by forces deployed in depth along major avenues of approach. This is so for two reasons. *First,* when fighting outnumbered, it is important to get as many weapon systems into the battle as quickly as possible in order to destroy the enemy as early and as quickly as possible. *Second,* mobility of armored and mechanized forces, and of attack helicopters enables the commander to rapidly concentrate forces at decisive places on the battlefield. When the main effort has been identified, forces are concentrated primarily by lateral movement. Often, attack helicopter units will be the first to arrive, engaging the enemy from the flanks and rear if possible. As tank and mechanized battalion task forces arrive, they are positioned where they can engage the enemy from the flanks, or, from the front if necessary.

Command Control. Graphic control measures together with oral and written instructions are used to indicate how the defense is to be conducted.

BATTLE POSITIONS

Battle positions are selected on basis of terrain and weapon analysis from which units can defend, block, or attack. Such units can be as large as battalion task forces and as small as platoons. The defending commander directs the fight by specifying which battle position his units will occupy and what they will do there—defend support attack by fire, or block. A system for identifying battle positions should be designated in division standing operating procedures. A good way of doing this is by alpha-numeric designators for example A-19.

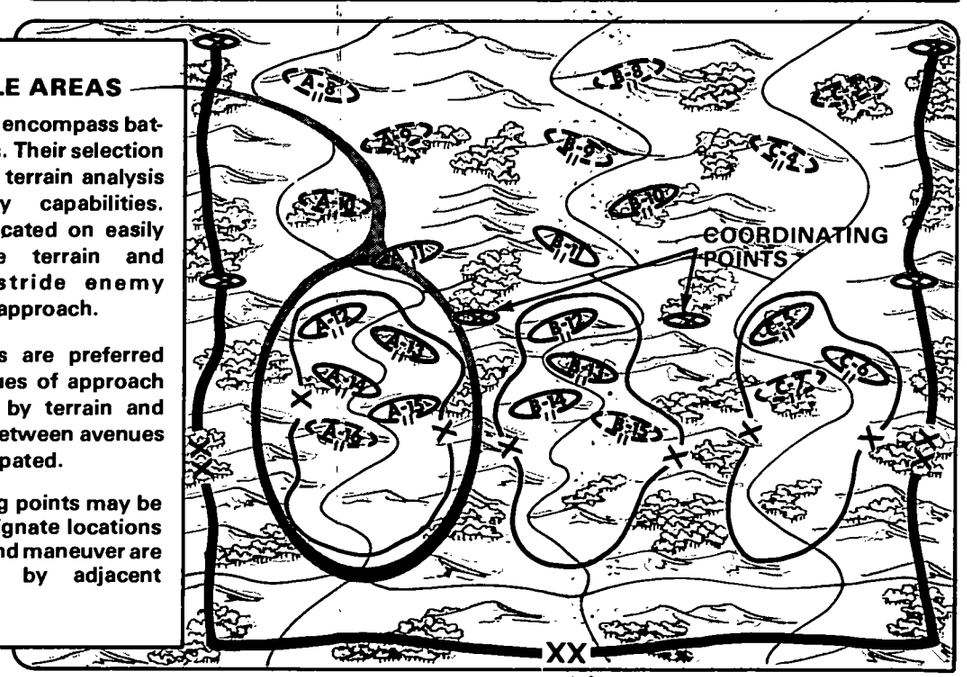


BATTLE AREAS

Battle areas encompass battle positions. Their selection is based on terrain analysis and enemy capabilities. They are located on easily recognizable terrain and usually astride enemy avenues of approach.

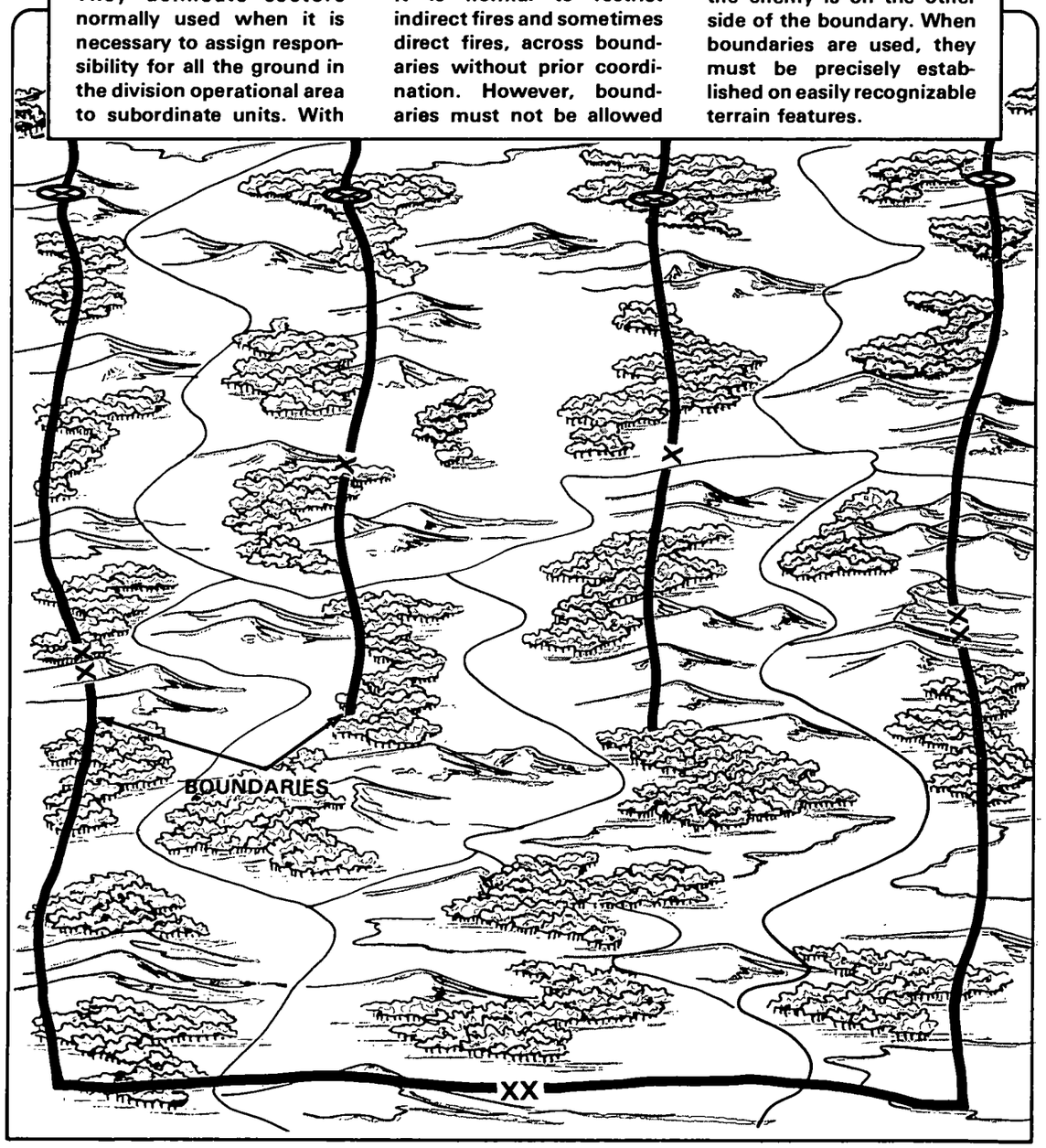
Battle areas are preferred when avenues of approach are limited by terrain and maneuver between avenues is not anticipated.

Coordinating points may be used to designate locations where fire and maneuver are coordinated by adjacent unit leaders.

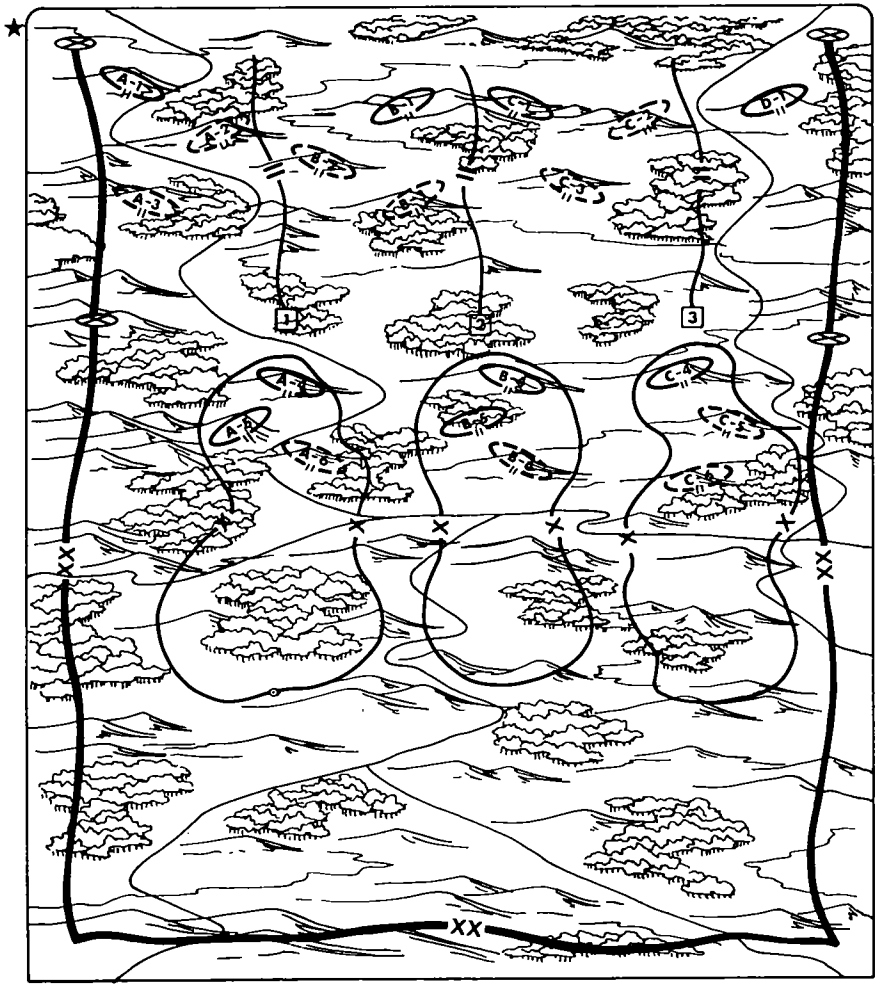


BOUNDARIES

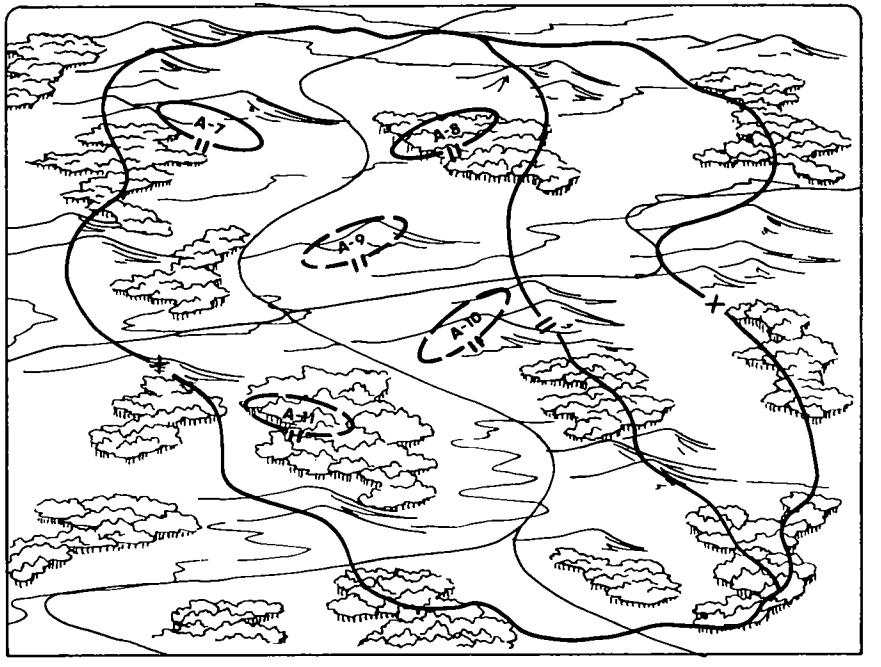
Boundaries may be used to control fire and maneuver. They delineate sectors normally used when it is necessary to assign responsibility for all the ground in the division operational area to subordinate units. With coordination, units may move across boundaries. It is normal to restrict indirect fires and sometimes direct fires, across boundaries without prior coordination. However, boundaries must not be allowed to preclude engaging an enemy force simply because the enemy is on the other side of the boundary. When boundaries are used, they must be precisely established on easily recognizable terrain features.



There are several ways to use battle positions, battle areas, and boundaries, for example: When the covering force commander intends for his battalion task forces to have relative freedom to maneuver, boundaries are usually necessary.



A brigade commander in the main battle area has three battalion task forces. He may wish to maneuver two and allow the third to maneuver at his own discretion in an economy of force area.



The division commander should normally operate from a tactical command post. It should be located well forward in the main battle area. It should be in the covering force area when directing covering force operations. It should be located near the unit controlling the major part of the battle—usually on a major avenue of approach.

When battle is joined, the division commander must continuously watch the enemy advance. His information must be real time or nearly so. He must know where his own units are located, which are engaged at any moment, and which are on the move and to what locations. If he is to control the concentration of battalion task forces, he must be able to quickly assess each new situation. He may be required to direct detachment, movement, and reattachment of battalion task forces, thinning a brigade in one area to thicken another somewhere else. He must be able to accurately judge time-distance factors if he is to concentrate forces against the major threat. His total picture of the battle must include the engagements ongoing and a pretty good estimate of those to follow.

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MOBILITY OPERATIONS

When defending, the majority of engineer effort is devoted to countermobility operations. However, it is necessary to expend as much effort as time and resources permit to open and maintain routes for rapid movement by divisional forces from one battle position to another, and to provide for supply, maintenance, and recovery operations.

When it is necessary to cross a water obstacle while moving from one battle position to another, company teams and battalion task forces conduct hasty crossings. So, engineers must insure that sufficient bridging for use by divisional forces is positioned in both the CFA and MBA. They must also insure that entrance and exit banks of fords are maintained and that existing bridges are properly reinforced and repaired, or replaced with tactical bridging when necessary. When the division commander intends to establish a strong defense at the exit bank of a major river, following a delay operation, the division mounts a ***river crossing operation as described in FM 90-13, River Crossing Operations. FM 5-100, Combat Engineer Operations, also contains additional information on river crossing operations.***

COUNTERMOBILITY OPERATIONS

Obstacles are used to decrease enemy mobility without hindering friendly maneuver. Obstacles can divert enemy forces from covered avenues into open areas where direct fire weapons can engage. In open areas, obstacles can extend the amount of time enemy units are exposed to friendly fire.

Natural Antitank Obstacles consist of:

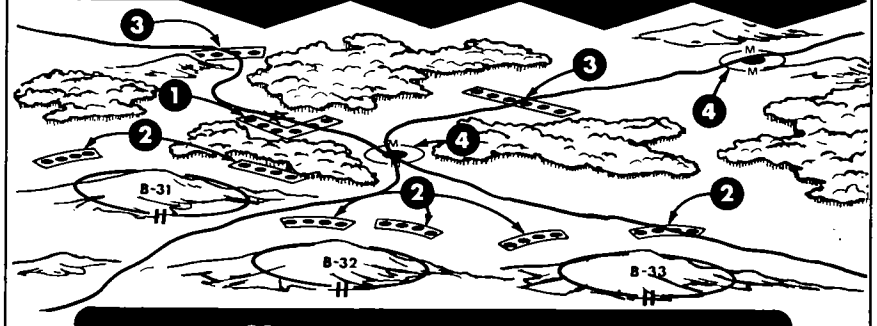
- mountains, terrain, and slopes over 60 percent;
- escarpments (for example, railroad tracks or highways on a steep fill over 1½ meters high);
- ravines, gullies, or ditches over 5-meters wide;
- rivers, streams, or canals over 150-meters wide and 1½-meters deep;
- swamps and marshes over 1-meter deep;
- forests or jungles with trees 8 inches in diameter, or 20 percent slopes with trees as small as 4 inches in diameter, (tree stumps 18 inches high are obstacles);
- snow over 1-meter deep; and
- built-up areas.

Reinforcing Obstacles consist of:

- **Antitank Obstacles:** Log obstacles—hurdles, cribs, posts and abatis, concrete and steel obstacles, tetrahendrons, hedgehogs and falling block obstacles and ditches are effective antitank obstacles. They should be sited to take advantage of trees, brush, or folds in the ground.
- **Wire Obstacles:** Wire entanglements are designed to impede the movement of foot troops and, in some cases, tracked and wheeled vehicles.
- **Minefields:** There are several types of minefields.

MINEFIELDS

MINEFIELD DESCRIPTION	POINT	HASTY PROTECTIVE	TACTICAL	POINT
INSTALLED BY	ENGINEERS (CONVENTIONAL)	BATTALION/ COMPANY	ENGINEERS	ARTILLERY (SCATTERABLE)
AUTHORITY TO EMPLOY	OIVISION/ BRIGAOE*	BATTALION/ COMPANY*	OIVISION/ BRIGAOE*	OIVISION/ BRIGAOE**
USE	TO COMPLEMENT ROAO CRATER	CLOSE-IN PROTECTION	STOP/OELAY/ DISRUPT	STALL OR STOP ENEMY AT PARTICULAR POINT
ILLUSTRATION KEY	1	2	3	4



OTHER TYPE MINEFIELDS

MINEFIELD DESCRIPTION	DELIBERATE PROTECTIVE	INTERDICTIVE	PHONY
INSTALLED BY	ENGINEERS	ARTILLERY/ AIR	ENGINEERS
AUTHORITY TO EMPLOY	BATTALION COR OR INSTALLATION COR		SAME AS FOR TYPE MINEFIELO BEING SIMULATEO
USE	LOCAL PROTECTION FOR SEMI-PERMANENT INSTALLATIONS	HARASS ENEMY IN REAR AREAS	TO OECEIVE ENEMY WHEN UNABLE TO USE LIVE MINES

*CAN BE DELEGATED TO
**BRIGADE FOR SCATTERABLE MINES LASTING LESS THAN ONE DAY

Persistent chemicals can also be used, when authorized, to contaminate avenues of approach and to slow or stop succeeding enemy echelons.

The following principles guide employment of obstacles during defensive operations:

- ***Obstacles are sited to increase the time enemy weapon systems will be exposed to fire from divisional weapon systems.***

- ***Obstacles should be employed in depth,*** one behind the other, along and astride avenues of approach every 200 to 500 meters. Obstacles must be far apart so that each requires the enemy to redeploy his breaching equipment.

- ***Reinforcing obstacles are sited to tie together, strengthen, and extend natural obstacles.*** Reinforcing and natural obstacles, when tied together, should be more difficult to bypass than to breach.

- ***Reinforcing obstacles should be camouflaged and concealed*** from the enemy when practical or employed in such a way that they come as a surprise to the enemy.

- ***Obstacles should be covered*** by observation, direct fire, indirect fire, and remote sensors when possible.

- ***Concealed lanes and gaps through obstacles are provided when required*** so friendly units may move through the system. It is necessary to insure that lanes or gaps can be blocked quickly. They should be covered by fire to preclude the possibility of the enemy rushing through before they can be closed.

Defensive terrain reinforcement planning begins with an analysis of the operational area to identify avenues of approach and natural obstacles. Terrain is evaluated to determine its natural canalizing effects in order to make maximum use of reinforcing obstacles. Obstacles are then planned to canalize enemy forces away from cover and concealment and into open areas covered by divisional weapon systems.

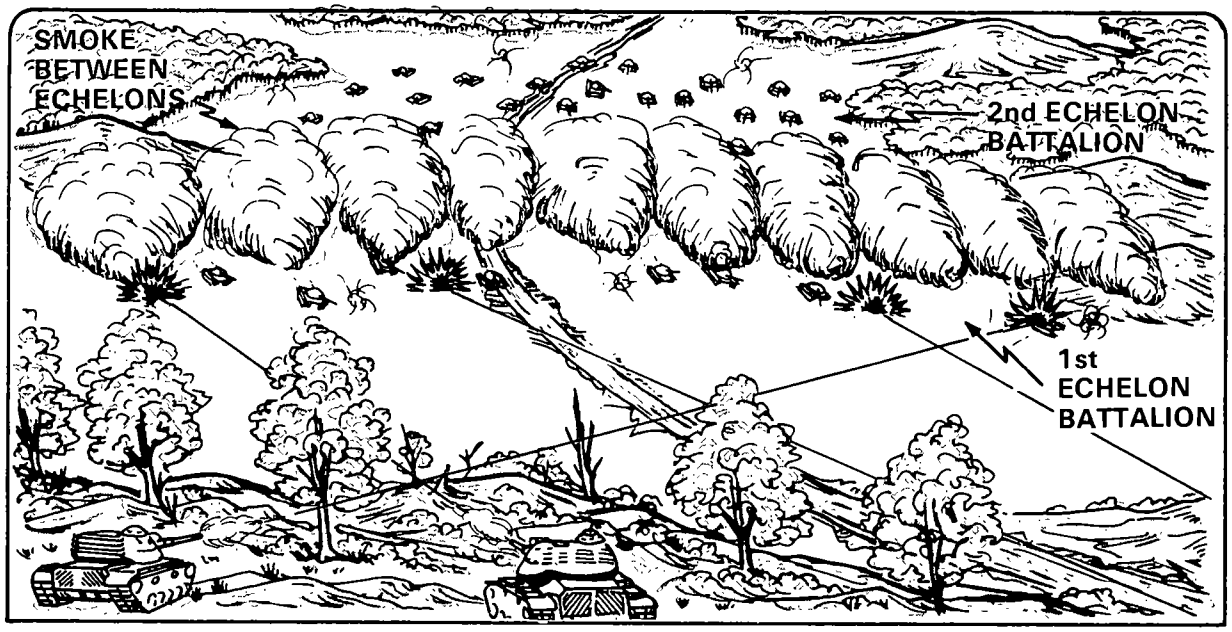
Obstacle planning must be conducted concurrently with terrain analysis to insure that each reinforcing obstacle is fully integrated into the division's tactical plan. The division engineer, fire support coordinator, and G3 work together to plan terrain reinforcement for the division.

Employment of obstacles is described in detail in FM 90-7, Obstacles.

SMOKE OPERATIONS

During defensive operations obscuration smoke placed on or very near enemy positions is used primarily to slow the enemy advance. This provides more time for engagement of enemy combat vehicles as they appear.

Screening smoke may be used by the division between enemy first and second echelon battalions to conceal engagements of first echelon forces by divisional units.



Screening smoke is also used to aid disengagement and to conceal movement away from enemy forces.

OPERATIONS DURING PERIODS OF LIMITED VISIBILITY

During daylight hours, intervisibility is influenced by changing battlefield conditions. Weapons sited to take advantage of long-range fields of fire and observation during periods of good visibility may become ineffective when foggy, cloudy, hazy, or smoggy conditions exist. It is, therefore, necessary to be prepared to move weapons to higher or lower ground to escape effects of such conditions. Ambush sites along roads in valley floors may be very effective during these periods.

Since conditions of snow or heavy rain will degrade most mechanical aids to vision, they generally require that defenders move closer to the avenues of approach they are guarding. Sensors may still be of value during rain and snow and radar can sometimes penetrate them.

Threat forces routinely continue daylight attacks into the night to maintain momentum. If a hasty attack is stopped the enemy will conduct a deliberate attack. Threat forces normally move and engage targets using artificial illumination such as flares, searchlights, and infrared equipment. Enemy dependence on active illumination systems can be an advantage to a defending force equipped with passive night vision equipment. With a full suit of passive gear, the defender must take every advantage of his enormous potential. *This means ruthless light discipline must be imposed.*

Enemy dependence on infrared night driving equipment results in slower movement, and permits rapid acquisition by friendly night observation devices. Adjustment of artificial illumination causes maneuvering forces to pause. Either way, defenders have more time to react, concentrate, and engage.

Enemy infrared equipment is effective up to about 900 meters. Defenders can identify and engage targets well beyond this range, even in poor ambient light. Defenders can

move in relative security and engage an enemy who cannot see them.

In a daylight engagement the enemy will usually return fire within seconds of being engaged. At night the defender can fire much longer before the enemy can identify the source and return effective fire.

As a general rule, defense at night is conducted as in the day by units equipped with modern night equipment. When not fully equipped with night sights and goggles for vehicle commanders, friendly units may have to rely on artificial illumination to see the enemy well enough to destroy him. Initial use of artificial illumination should be controlled at the highest practical level to preclude premature disclosure of the defender's position.

OTHER DEFENSIVE OPERATIONS

Relief in Place. A relief in place is normally ordered when the unit to be relieved is defending. The relieving unit usually assumes the same responsibilities and generally deploys in the same configuration as the outgoing unit, although it may subsequently attack.

As soon as the division commander receives the mission to relieve another division, he should move with members of his staff and key subordinate commanders to coordinate significant details of the operation with the outgoing division commander and his staff. If they have not already been specified in the order, the following details are of immediate concern to the commanders of both divisions:

- **concept of the integrated tactical cover and deception plan;**
- **timing and movement of subordinate units to include route priorities;**
- **sequence of relief, both laterally—left to right, right to left, or all units, simultaneously, and in depth—front to rear or rear to front;**
- **time or circumstances under which incoming commander assumes full responsibility for the mission and sector; and**
- **traffic control.**

Since both units are particularly vulnerable once the operation begins, every effort is made to conceal the operation from the enemy. This may mean that the operation is conducted over one or more nights. To deceive the enemy, normal activity should be continued. Particular attention should be paid to patterns of indirect fires, communications traffic, patrols, or aerial reconnaissance by the outgoing unit and any other activities, which if changed, might indicate to the enemy that relief was occurring.

It is desirable for incoming leaders at each level of command to reconnoiter new positions. However, it is usually necessary to limit the size of incoming unit reconnaissance parties to conceal the operation from the enemy.

Smooth transition can be assisted by such measures as:

- **guides for incoming units;**
- **exchange of equipment to include crew-served weapons when authorized and appropriate;**
- **transfer of fire support plans, target data, and barrier plans;**
- **separate routes for movement in opposite directions; and**
- **common use of cargo carrying vehicles.**

Delay Operations. Delay operations are normally conducted when there are insufficient forces to attack or defend, making it necessary to trade space for time. Delay operations are conducted much like the active defense, except that, while the purpose of the defense is to ***stop*** the enemy, the purpose of the delay is to ***slow*** the enemy, often for a specified time. Thus, *when a force is delaying, as is the case in the active defense, some of its subordinate units may be attacking, some defending, and some disengaging to move to other positions.*

Delay operations are conducted to force the enemy to take the time to concentrate, again and again, against successive battle positions, to overcome each in turn. Just when the enemy has everything organized, when his artillery is starting to fire and his ground units are starting to maneuver, the delaying force moves to its next set of battle positions. The enemy must then go through the same time-consuming process once again. A delaying force must do several things at once:

- **destroy as much of the enemy as possible,**
- **cause the enemy to plan and conduct successive maneuvers; for this gains time,**
- **preserve freedom to maneuver; once immobilized by enemy fire and maneuver, the delaying force can be bypassed, penetrated, or destroyed; and**
- **preserve the force. Failure to do this leads to failure in the other three.**

The entire division may delay when directed to do so by corps; or part of the division may delay while the remainder concentrates to destroy the enemy elsewhere.

The commander directing the operation may specify a minimum amount of resistance when his intent is to delay the enemy but above all to preserve the combat effectiveness of the delaying force. The delaying force engages early with long-range fires, destroying as much of the enemy as possible, then moves to new positions before the enemy can close within assault range.

The enemy is most effectively delayed when his losses are high. Specifying time goals for the delaying force entails some risk, since a delaying force required to stand and fight for too long may lose its freedom to maneuver. However, when the enemy must be held forward of a specified locale for a specified time, the commander must accept whatever risk is necessary to accomplish the mission. When this is the case, the commander directing the operation specifies the amount of time or location(s) where an enemy force must be delayed. The order may be—

"Hold the enemy west of Highway 45 until 0900 hours. . ."

or,

"Keep the enemy north of Blue River until Objective Hammer is secure. . ."

or,

"Hold the enemy north of Highway 20 until 071900, then move to hold the enemy north of Red River until 082100 hours."

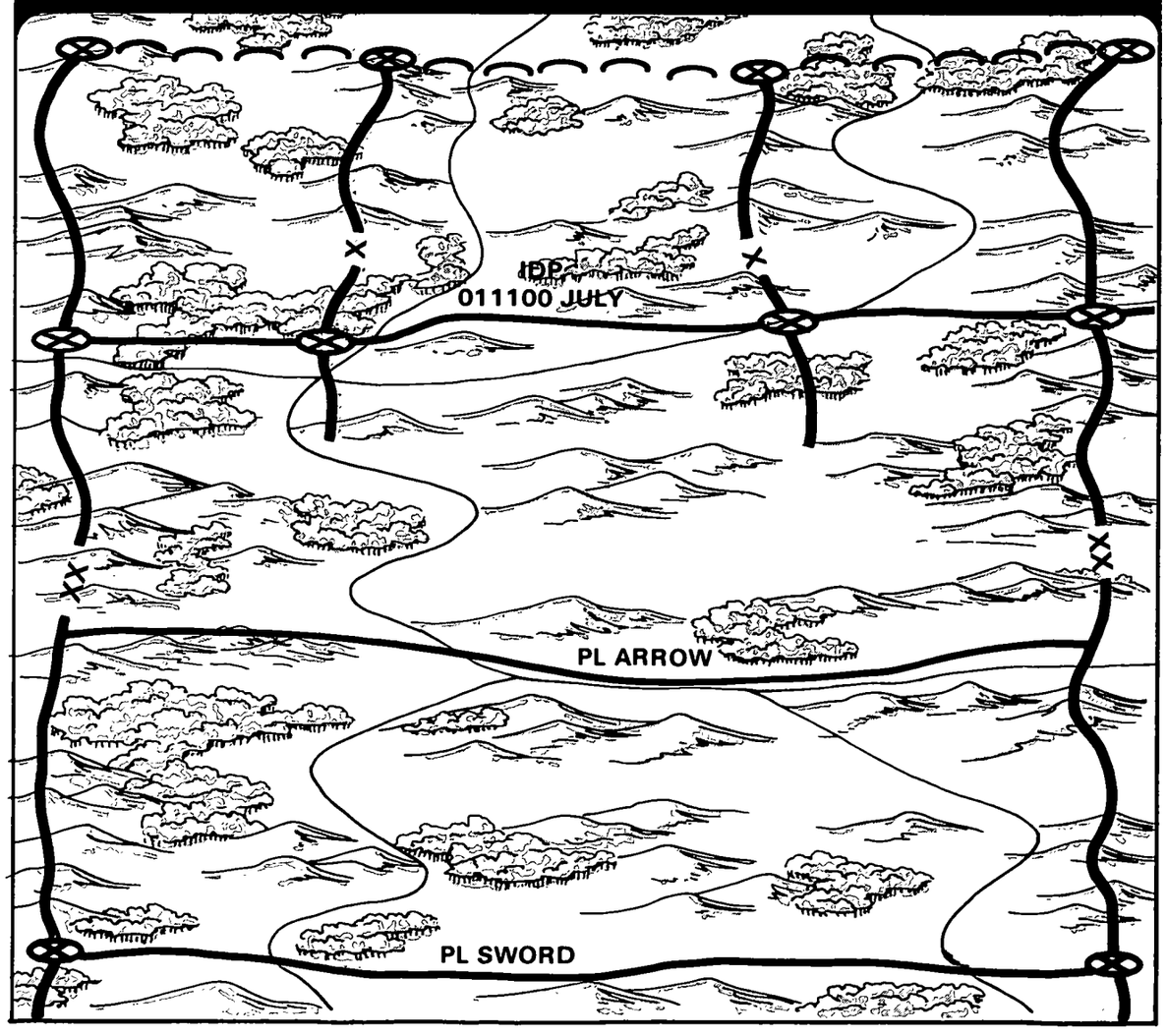
If the factors of *"slow the enemy"* and *"preserve the force"* come into conflict, the delaying force commander must so inform his superior commander. The superior commander then has the choice of accepting less time in exchange for preserving the force, or delaying for the time required but risking loss of all or part of the delaying force.

The broad concept for a delay operation can normally be developed only in broad outline because the enemy, generally being stronger, will force the commander of the delaying force time and again to change his scheme of battle.

However, the commander should specify:

- **what must be done—that is, the intent of the operation,**
- **task organization,**
- **when, where, and how the operation is to be conducted,**
- **measures to be used to cover gaps and flanks, and**
- **phase or delay lines to be used to control the operation.**

DELAY OPERATIONS



Withdrawal Operations. A withdrawal is an operation in which all or part of the force disengages from the enemy. Its purpose is to move a force out of an area in order to employ it elsewhere for another mission in another area. While the whole division may disengage, more often part of the division disengages to move to join the fight elsewhere on the battlefield.

The *timing* of the decision to disengage is critical; made too late, the decision could be impossible to execute. In some cases it might be less dangerous to fight an action to its conclusion than to break contact to fight elsewhere. In other cases it may be necessary for part of the force to attack to allow the remainder to disengage.

In disengaging from the enemy it is most important to put distance between the disengaging force and the enemy as quickly as possible, preferably without the enemy knowing about it. Disengagement and withdrawal are best accomplished under cover of darkness, or during other periods of limited visibility, even though command control may be more difficult. Smoke can also assist in concealing the operation.

The larger the disengaging force, the more important operations security becomes; so the intent of the operation is not prematurely revealed to the enemy. Once the operation begins it may be necessary to conduct deception operations to deceive or confuse the enemy. Limited objective attacks, raids, or feints can sometimes be used for this purpose. **Deception operations are further described in FM 90-2, Tactical Deception.**

As a general rule, *once disengagement has begun, a smaller force is left to cover the withdrawal of a larger force.* Its purpose is to prevent the enemy from re-engaging the withdrawing force and to deceive the enemy into believing that friendly dispositions are unchanged. To do this, the covering force attacks, defends, or delays depending on the desires of the superior commander. The division commander may organize a covering force using divisional units, or the corps commander may organize the covering force around non-divisional units or units from a division not in contact.

When the covering force is organized around units in contact, the withdrawing force disengages and moves away from the covering force. When the covering force is organized around units not in contact, the withdrawing force disengages and conducts a rearward passage of lines through the covering force. This must be done rapidly, so the covering force can take up the fight as quickly as possible.

The operation should be planned in as much detail as time allows. Task organization and boundaries should be changed as little as possible, although some adjustment may be necessary to establish a covering force.

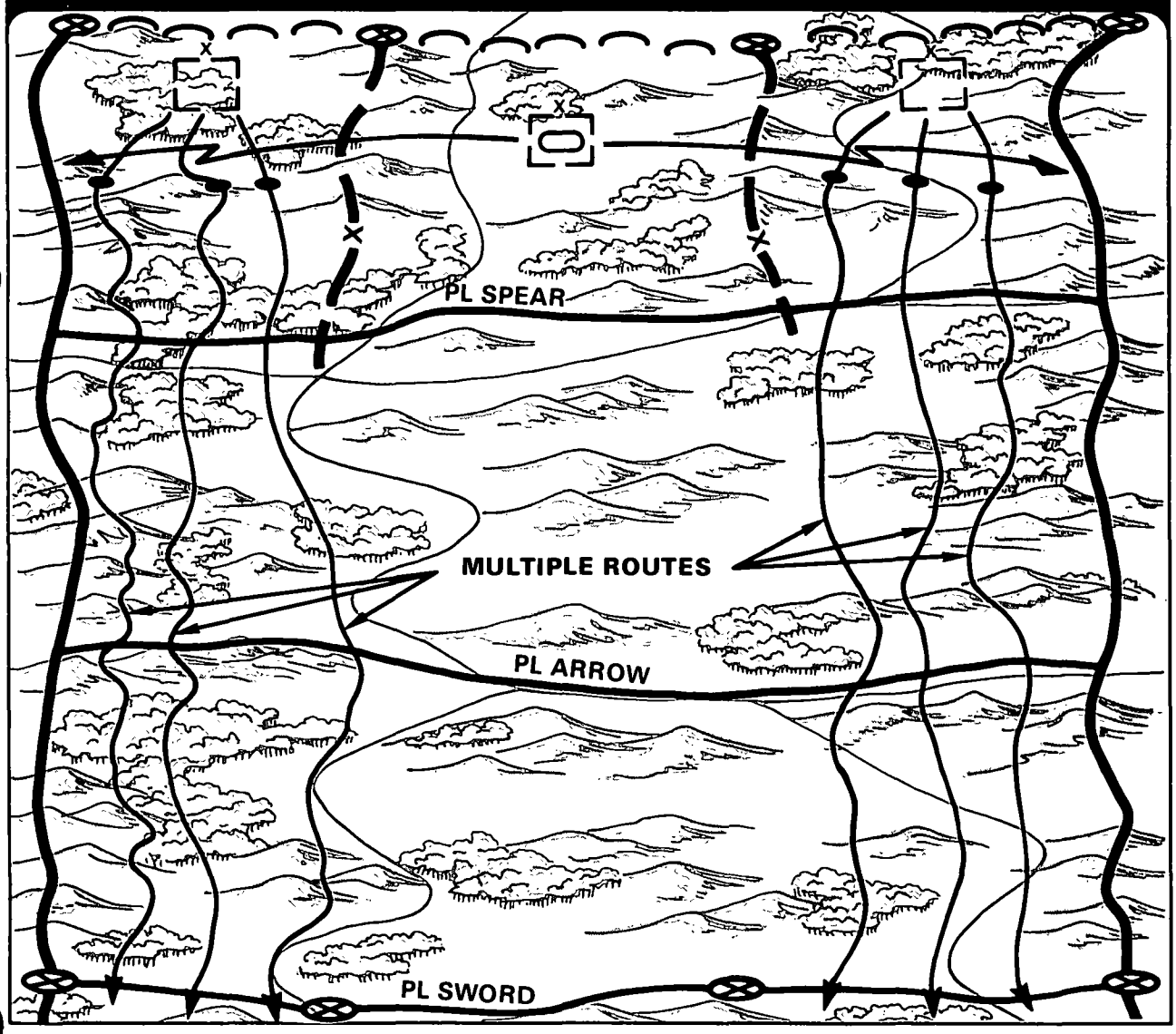
Withdrawal operations are conducted in several overlapping phases, generally in the following order:

- **selection, reconnaissance, and necessary preparation of multiple routes and assembly areas,**
- **preparation of barriers and obstacles to pursuit by the enemy,**
- **evacuation of wounded, recoverable equipment and supplies, and movement of non-essential combat service support units to the rear,**
- **positioning of covering forces,**
- **deception operations,**
- **redeployment of field artillery units not needed to support disengaging forces,**
- **disengagement of the withdrawing force and movement to new positions, and**
- **disengagement and withdrawal of covering forces or security elements when directed to do so by the superior commander.**

The withdrawing force is most vulnerable during disengagement and the early stages of rearward movement. To disengage units in contact, all available fires are used to stop the enemy and allow maneuver units to break contact and maneuver away from the enemy. Flank security can be very important and should be provided for.

The success or failure of a withdrawal, once disengagement has occurred, often depends on the orderly movement of the force to the rear. Multiple routes must be carefully selected to avoid congestion. Should the withdrawing force slow or stop for any reason before sufficient distance has been placed between it and the enemy, it may have to stand and fight again under the worst of circumstances. In any case, the commander should always have a plan, even if only in his mind, to counter enemy pursuit.

WITHDRAWAL OPERATIONS



CHAPTER 6

Combat Service Support Operations

The G4, G1, division support command (DISCOM) commander, his staff, and the division transportation officer all work together to put the maximum number of operating weapon systems on the battlefield. This is the purpose of combat service support. The G1 and G4 plan for combat service support operations, while the DISCOM commander conducts combat service support operations.

While the *division support command* (DISCOM) is organized to provide a variety of combat service support to divisional units, its most important functions are to arm, fuel, fix, and man the weapon systems. And it must do this as far forward as the tactical situation permits in order to return inoperable weapon systems to the battle as quickly as possible. Before describing how these functions are accomplished, it is first necessary to describe how the DISCOM organizes for combat service support.

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ORGANIZATION FOR COMBAT SERVICE SUPPORT OPERATIONS

The DISCOM is organized with:

- A HEADQUARTERS AND HEADQUARTERS COMPANY to provide for command control.
- ★ A MATERIEL MANAGEMENT CENTER to provide for supply and maintenance management.
- A SUPPLY AND TRANSPORT BATTALION to get together and move supplies for the division.
- A MAINTENANCE BATTALION for recovery, repair, and evacuation of the division's equipment.
- A MEDICAL BATTALION to treat and evacuate patients.
- AN ADJUTANT GENERAL COMPANY to provide personal services—all except financial services which are provided by a finance company.

Divisional battalions and the armored cavalry squadron have some organic combat service support means, the composition and operations of which are described in the appropriate unit manual.

A divisional brigade does not have combat service support units of its own, although it does have a personnel staff officer (S1) and logistics staff officer (S4) to plan and coordinate combat service support operations in support of the brigade. Combat service support is provided to the brigade by DISCOM units, and by units from the *corps support command* (COSCOM).

BRIGADE TRAINS

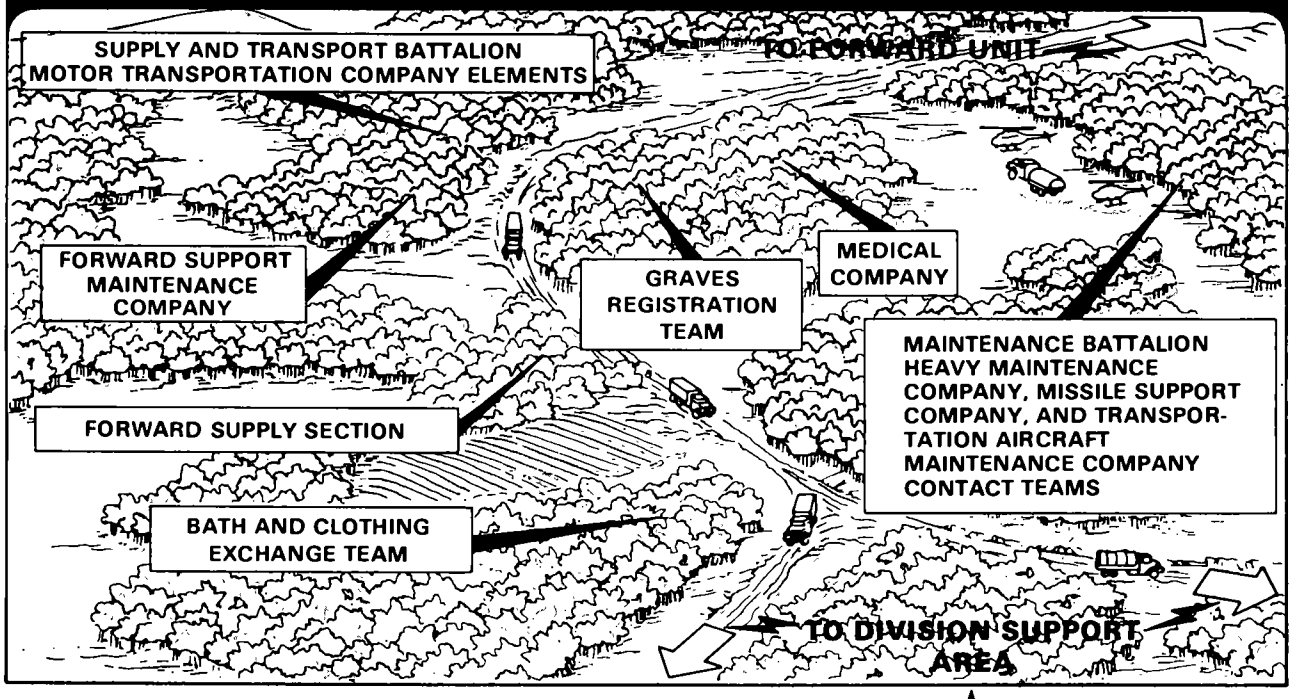
Any grouping of personnel, vehicles, and equipment put together to provide combat service support to a unit is called the unit trains. Brigade trains are organized around forward area support teams provided by the DISCOM. The DISCOM commander, working with brigade S4s, forward area support coordinators, division G4, and DISCOM battalion commanders, tailors DISCOM forward support elements based on operational requirements of each brigade. Although the specific organization of each forward support element may vary with the supported brigade's mission, each element generally has:

- **a forward support maintenance company,**
- **a forward supply section from the supply and transport battalion, and**
- **a medical company.**

Other elements which may operate with a forward support element are:

- **maintenance support teams from the maintenance battalion heavy maintenance company, missile support company, and transportation aircraft maintenance company;**
- ★ **elements of the supply and transport battalion transportation motor transport company; and**
- **graves registration, bath and clothing exchange elements when provided by augmentation or a nondivisional field service company.**

A TYPICAL UNIT TRAIN



Forward support elements operate from brigade support areas; although some elements, for example, maintenance support teams, frequently operate with battalion task force combat trains and forward tank and mechanized company teams. From time-to-time, some battalion task force field trains may also operate from the brigade support area. Other DISCOM units are normally located in the division support area.

A DISCOM forward area support coordinator (FASCO) coordinates the efforts of DISCOM units supporting a brigade. It is frequently necessary to place those units under the operational control of the FASCO, particularly during fast-moving operations. The FASCO works with the brigade S4, battalion task force S4, and DISCOM battalion commanders to see that brigade combat service support needs are met.

The remainder of this chapter describes division combat service support operations in general terms. **FM 54-2, The Division Support Command and Separate Brigade Support Battalion, provides a detailed description of DISCOM organization and operations.**

ARMING

When preparing for combat operations, the G3 works with the G4 to estimate ammunition requirements. Ammunition requirements are normally stated in terms of a required supply rate (RSR), expressed in rounds per weapon, per day, by type weapon. The RSR is based on the type of operation to be conducted, type and number of weapon systems to be armed, and the number of enemy targets expected to be engaged. **FM 101-10-1, Staff Officers Field Manual, Organizational, Technical, and Logistical Data, contains detailed ammunition consumption data.** However, it is necessary to modify that data using experience factors and a detailed analysis of the type and number of enemy weapon systems that can enter the battle.

Sometimes corps or a higher headquarters imposes a controlled supply rate (CSR) on the division. The controlled supply rate is less than the required supply rate; it is used when corps cannot supply quite as much as the division believes it will need. When this is the case, the division commander, working with his G3 and G4, establishes priorities for distribution of controlled ammunition. In the event that the controlled supply rate is considerably short of anticipated requirements, some adjustment in the tactical plan may be necessary.

The division ammunition officer converts the required or controlled supply rate into short tons and cubic feet of cargo. The G4, working with the brigade S4s and the division ammunition officer, must then determine the division's capability to meet operational requirements. Status of unit basic loads is reviewed and the ability of the division to replenish basic loads once the operation has started is determined.

A unit basic load is the amount of ammunition that a unit requires to sustain itself in combat until it can be resupplied. It is based upon such factors as type and number of weapon systems in the unit.

If basic loads are insufficient to support the operation until they can be replenished, appropriate steps must be taken to resupply or redistribute ammunition.

During peacetime, the location of a unit basic load will vary from unit to unit depending on mission and availability of local storage facilities. Some units have all of their basic load loaded aboard combat and cargo vehicles. Ammunition that cannot be kept loaded for safety or other reasons is stored in nearby basic load storage areas controlled by the unit. Other units may find their basic loads stored in prestock points, some distance away from their garrison and under control of ordnance ammunition units. *The quicker a unit can load up, the faster it can deploy.* Therefore, it is necessary to insure that stored ammunition is identified and segregated by unit, and that it is readily accessible. It is also necessary to exercise

periodically the division's ability to load up its ammunition to insure loading plans are workable.

For a variety of reasons, the capability of tank and mechanized battalion task forces and field artillery battalions to replenish their own basic loads is limited. As a general rule, battalion cargo vehicles are not suited for long distance hauling. Space requirements for Shillelagh and TOW missiles further limit the cargo carrying capacity of units armed with those weapon systems. So, ammunition resupply stocks should be located as near as possible to using units.

The division G4 works with the corps G4 to locate corps ammunition supply points as far forward as possible, particularly when heavy fighting is expected. A number of other things can be done to shorten ammunition delivery time to divisional battalions, such as:

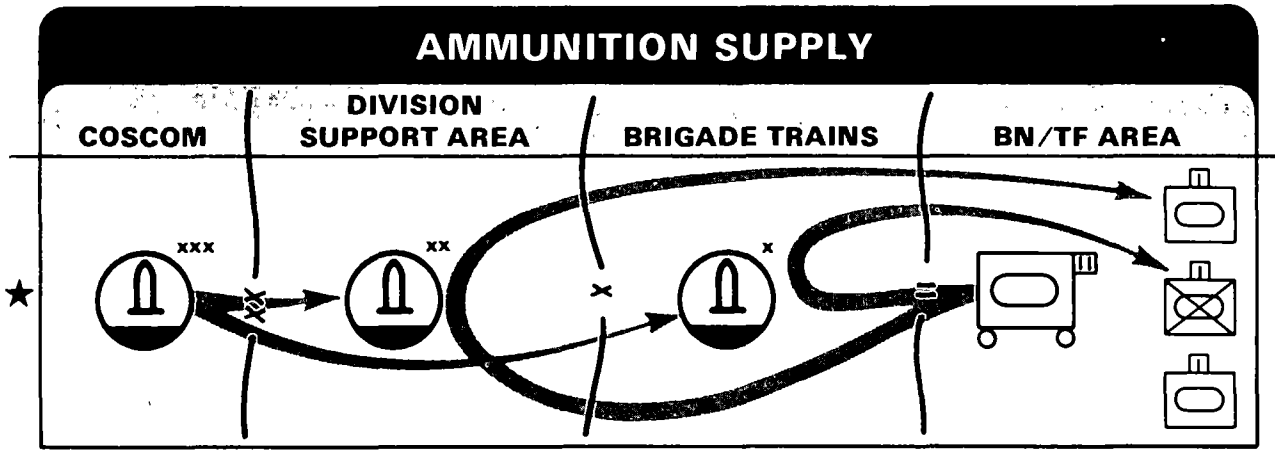
- **Stock ammunition supply points by unit or type basic load.**
- **Establish trailer exchange points where divisional prime movers exchange empty trailers for loaded trailers from COSCOM. (The empty trailers are then returned by COSCOM prime movers for reloading.)**
- **Position some quantities of high-usage ammunition (armor-piercing, discarding sabot tank ammunition and TOW missiles, for example) in brigade support areas.**
- **Position small stocks of ammunition, covered and concealed, near unit battle positions during defensive operations. This can be done for positions expected to be occupied as the battle unfolds.**
- **Have DISCOM or COSCOM units deliver ammunition directly to battalion task forces by vehicle or by helicopter when necessary.**

Some ammunition, particularly controlled ammunition, should be held in reserve to provide for unforeseen circumstances.

Should the division transportation officer determine there is insufficient divisional transportation to replenish unit basic loads as fast as they are expected to be consumed, he should request additional transportation from corps. If this is not available, the G4 should inform the division commander so the commander can modify his tactical plan if necessary.

When authorized to carry nuclear weapons, a prescribed nuclear load (PNL) for the division is designated by corps, theater army, or the combined command of which the division is a part. The PNL is the number of weapons by yield a unit is *required* to carry. The division will normally distribute its PNL for each subordinate nuclear-capable delivery unit.

Once the operation begins, the G4 monitors how much ammunition is being consumed by units in contact through the battlefield information-reporting system described in Chapter 7, *Command Control of Combat Operations*. Stocks are replenished, adjusted, and redistributed as necessary to support the operation.



FUELING

The ability of the division to provide bulk fuel to its units, particularly to battalion task forces, field, and air defense artillery battalions, is most important to the division commander. Packaged items, such as oil and lubricants, are also important; however, the small quantities involved make them relatively easy to supply.

Division fuel requirements are based on consumption rates and forecasts developed by battalions. The brigade S4 refines estimates provided by battalions and forwards brigade requirements to the division materiel management center. Here, brigade requirements are reviewed after they are consolidated with requirements of division artillery and those of other divisional battalions.

In reviewing division requirements, special circumstances which could result in unusually high fuel consumption rates should be considered. It is particularly important to consider the effects of terrain on fuel consumption. For example, vehicles operating over hilly terrain will consume more fuel than those operating on relatively level terrain. Once divisional forecasts have been adjusted as appropriate, requirements are provided to COSCOM. **FM 101-10-1, Staff Officers Field Manual,**

Organizational, Technical, and Logistical Data, contains fuel consumption data, although data should be modified by experience.

As in the case of ammunition, once fuel requirements are forecasted, the G4 must determine the best way to deliver fuel to divisional units. Although the division's ability to receive, store, and distribute bulk fuel is somewhat limited, each divisional unit has some fuel-carrying capability of its own. Battalions are equipped with tankers and fuel pods mounted on cargo-carrying vehicles. The supply and transport battalion has tankers, as well as bulk fuel storage bladders which can be positioned in brigade support areas or other locations relatively close to using units. Petroleum medium-truck companies of the COSCOM can sometimes provide additional tankers to meet the division's requirements.

As a general rule, *COSCOM delivers bulk fuel to fuel distribution points located in division and brigade support areas.* Sometimes, divisional tankers may be used to transfer fuel from COSCOM distribution points to division distribution points.

Whenever possible, fuel is delivered from the brigade support area to forward tank and mechanized battalion task forces, and sometimes to company teams by DISCOM tankers. Here, empty tankers may be exchanged for full tankers. When necessary, COSCOM tankers also deliver fuel directly to forward battalion task forces or to leading company teams.

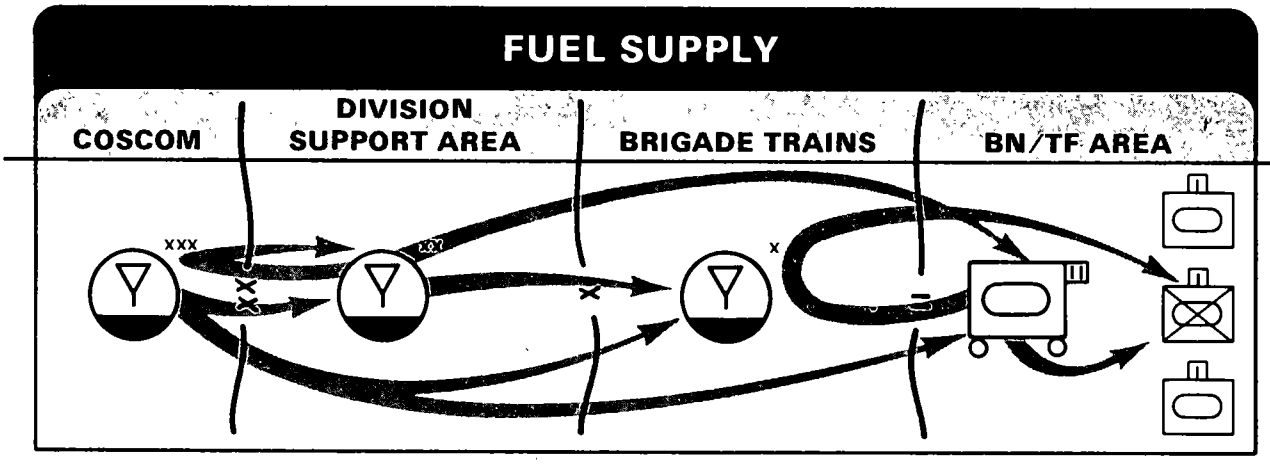
Units operating in the division support area go to the nearest fuel distribution point to obtain bulk fuel.

Aviation fuel is normally delivered to supply and service company fuel storage elements near the division airfield by COSCOM. The aviation battalion can also establish forward area refueling and rearming points in brigade support areas to support air cavalry and attack helicopter operations. Attack helicopter units attached to the division can establish forward area refueling and rearming points of their own. However, the division or COSCOM must deliver fuel to those points since attack helicopter units have very limited capability to do so on their own.

Forward deployed divisions, Europe for example, should exercise fueling plans as frequently as necessary to insure plans are workable.

As in the case of ammunition, some bulk fuel, both vehicle and aviation, should be held in reserve to provide for unforeseen circumstances. *If for any reason the division G4 determines that there is an insufficient amount of fuel to support the operation, he should inform the division commander so the tactical plan can be modified if necessary.*

Once the operation begins, the G4 follows the status of heavily engaged units through the battlefield information-reporting system. Stocks are replenished, adjusted, and redistributed as necessary to support the operation.



REPAIR AND RECOVERY

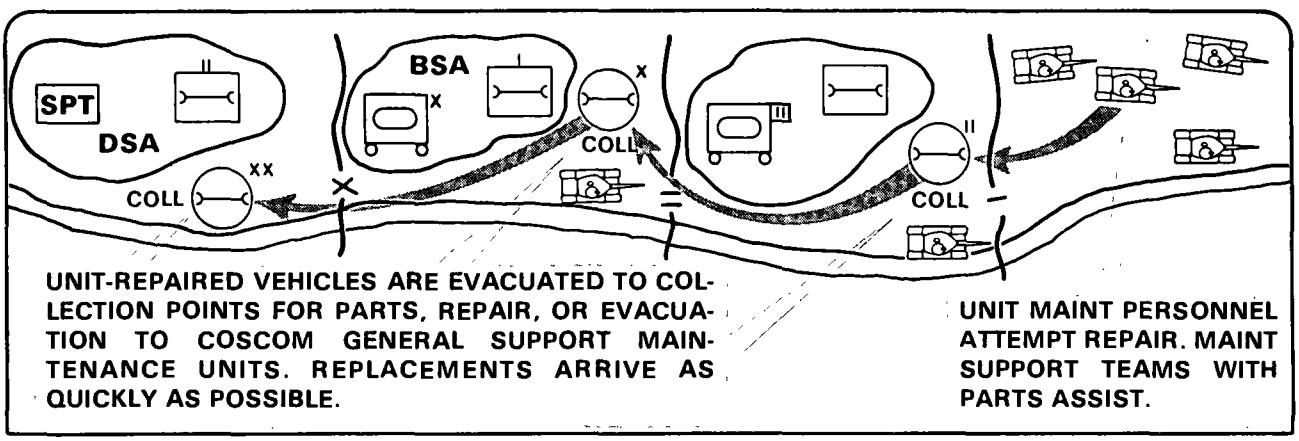
Each forward support maintenance company operating in the brigade support area is tailored to the requirements of the supported brigade. Many forward support maintenance company mechanics are organized into maintenance support teams, which work directly with tank and mechanized battalion task forces and field and air defense artillery battalions.

The missile support company is usually located in the division support area. However, missile maintenance support teams from the company often operate with forward support maintenance companies. They are sometimes attached to battalion task forces or to Chaparral batteries when their special skills are required.

The transportation aircraft maintenance company is located at the division airfield. Maintenance support teams from this company should locate at forward area refueling and rearming points.

Repair and recovery are accomplished as far forward as possible at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for repair. When a combat vehicle is disabled, the unit maintenance section tows it to a location where the extent of repairs can be determined. If unit maintenance personnel cannot repair the vehicle:

- **Additional parts or major assemblies are sent forward as required.**
- **Maintenance support teams, if not already on site, are sent forward with parts and equipment to assist in repair.**
- **Vehicle may be moved further to the rear to await parts or more highly skilled maintenance support teams from COSCOM.**



It may be necessary to cannibalize—to remove parts from damaged vehicles which cannot be immediately repaired—in order to return other vehicles to combat.

It is desirable to allow cannibalization decisions to be made as close to the site of damaged equipment as possible, preferably by battalion maintenance officers working with forward support maintenance company personnel. However, *guidelines should be established by the division commander to preclude uncontrolled cannibalization of damaged vehicles.* Maintenance collection points can be established where designated forward support maintenance company personnel determine which of the more seriously damaged vehicles should be cannibalized and which should be repaired and returned to action.

Procedures for repair and recovery of damaged combat aircraft are similar to those used for damaged vehicles. The transportation aircraft maintenance company is located at the division airfield. Maintenance teams from this company should locate at forward area refueling and rearming points. Repairs are made as far forward as practical to return combat aircraft to combat quickly. As with combat vehicles, some aircraft may be cannibalized; but here again, controls should be established. It may be necessary to use other aircraft to recover downed aircraft. **These operations are described in FM 17-50, Attack Helicopter Operations.**

When equipment cannot be repaired immediately in the forward area, it is moved to a collection point established by the maintenance battalion commander to await repair or evacuation to COSCOM general support maintenance units. Collection points can also serve as sorting points, previously described. *When it is necessary to evacuate equipment to a COSCOM general support unit, it is important to provide a replacement as quickly as possible.*

The division usually has an operational readiness float which may include tanks, armored personnel carriers, radios, small arms, wheeled vehicles, and aircraft. Whenever possible, replacements for readily repairable equipment come from an operational readiness float.

War reserve stocks are maintained by theater, or sometimes by corps. Replacements for equipment that cannot be repaired generally come from these stocks. The division and corps G4s work together to plan for movement of war reserves to division or sometimes brigade support areas. Replacement vehicles are armed, fueled, and test fired by maintenance battalion personnel or unit crews before delivery to combat units.

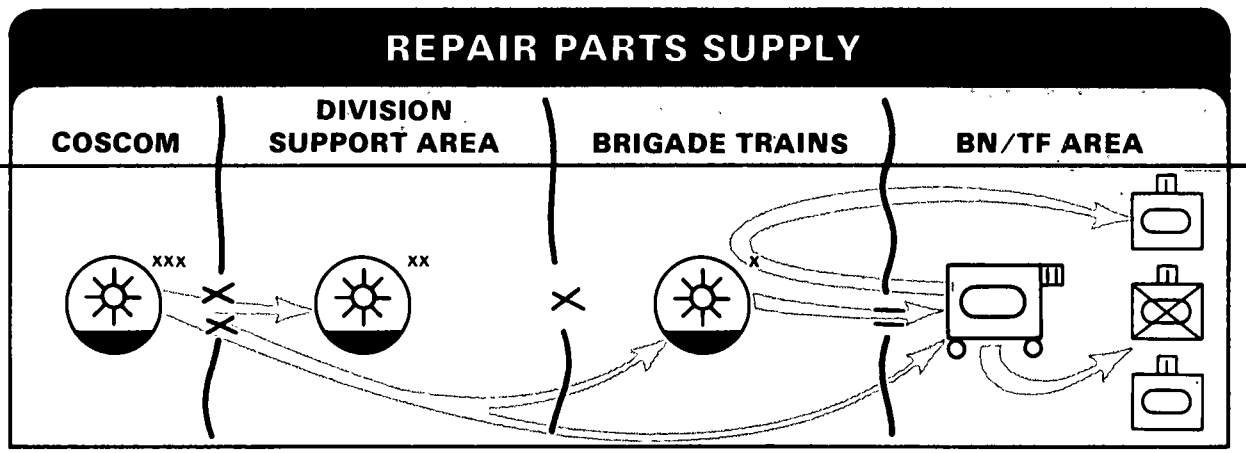
Replacement crews should join combat vehicles before they arrive in the brigade support area. However, it may be necessary to unite replacement crews with vehicles in the brigade support area as well. In any event, plans must be made to join crews with vehicles rapidly. This process is further described under **Weapon Systems Replacement Operations.**

When all divisional maintenance equipment or replacement requirements cannot be met, the division commander or G3 determines maintenance or replacement priorities based on operational requirements of the division.

Repair Parts. The maintenance battalion stocks repair parts and major assemblies based on authorized stock lists. The division G4 determines stock levels for forward support maintenance companies based on best data available and good military judgment. However, they are stocked with only those repair parts and major assemblies necessary to repair inoperable equipment quickly.

In peacetime, it is necessary to stock a great many items not necessarily essential to combat operations. These stocks should be separated into combat essential and non-combat essential categories. In forward deployed divisions, even when not in combat, combat essential stocks can be loaded and issued from repair parts vans, stake and platform trailers, or from MILVANS so they are always completely mobile. In CONUS, this may not always be practical. However, *plans should be made to load combat-essential stocks on vehicles in the event it becomes necessary to deploy for combat operations.*

Stocks are replenished from COSCOM units. Requests for repair parts are processed through the division materiel management center to COSCOM materiel management center. The COSCOM materiel management center directs a COSCOM supply unit to issue parts. If a requested part is not available in COSCOM, the request is forwarded to the appropriate CONUS supply activity. When possible, parts are delivered directly to the requestor.



This section has described repair and recovery operations primarily for major weapon systems. Evacuation of other unserviceable items such as signal and engineer equipment, tentage, and clothing to divisional direct support units is the responsibility of the using unit. Direct support maintenance units further evacuate unserviceable equipment to COSCOM general support maintenance units when necessary to do so. This is usually done by back haul on DISCOM or COSCOM cargo-carrying vehicles enroute or returning to COSCOM units. Maintenance collection points are established throughout the division for collection of unserviceable or abandoned materiel where disposition is determined.

WEAPON SYSTEMS REPLACEMENT OPERATIONS

The division G1 and G4 work together with the corps G1, Adjutant General, and G4 to establish procedures for weapon systems replacement. *The object of weapon systems replacement operations is to obtain and distribute fully crewed, ready-to-fight weapon systems as rapidly as possible.*

Procedures should provide crew and weapon replacement for those weapon systems the commander considers critical to his operation. It may be necessary to designate an individual to be the division weapon systems manager for specific weapon systems.

Before combat operations are conducted, casualty and combat vehicle loss estimates are normally prepared and provided to corps. **FM 101-10-1, Staff Officers Field Manual, Organizational, Technical, and Logistical Data, provides some data upon which such estimates can be used.** As in the case of ammunition and fuel, data must be modified based on experience and best military judgment.

To determine weapon systems replacement requirements during combat operations, an accurate and timely weapon systems status reporting system is necessary. Some information can also be obtained from an effective battlefield information-reporting system, as the one described in chapter 7.

The G1 or Adjutant General works with the G4 to insure individual crew members or crew replacements can be moved rapidly to join a weapon, or otherwise join a unit. *A useful tool for the G1 is a division reception point, located in the division support area or perhaps COSCOM area where personnel assignments are made, crews are organized, and necessary orientation is accomplished.*

Weapon systems replacement can be required under different circumstances. For example:

- When **personnel losses are low** and **weapon losses are low,** it is preferable to transport individual personnel replacements directly to the unit. Replacement weapons may be picked up in the division or brigade support area by unit crews.
- When **personnel losses are low** and **weapon losses are high,** individual replacements may join unit crews and replacement weapons in the division support area or sometimes in the battalion trains area. In such case the replacement weapon is armed, fueled, test fired, and moved to the unit.
- When **personnel losses are high** and **weapon losses are low,** replacement crews should be transported directly to battalion combat trains, although some crews may pick up replacement weapons in the division support area.
- When **personnel losses are high** and **weapon losses are high,** replacement crews are normally grouped with replacement weapons in the division support area. The weapons are armed, fueled, test fired, and moved to battalion combat trains area.

When there are insufficient weapon systems replacements to meet requirements, the commander or G3 establishes assignment priorities. In the case of crewmen, some things can be done to reconstitute crews from within the division:

- **Soldiers in non-combat units with secondary crewman MOSs can be used.**
- **Soldiers with related skills, such as drivers, can be used.**
- **Lightly wounded soldiers can be returned to duty as quickly as possible.**

In any event, crewmen should not be performing non-crew duties when crew vacancies exist.

OTHER COMBAT SERVICE SUPPORT OPERATIONS

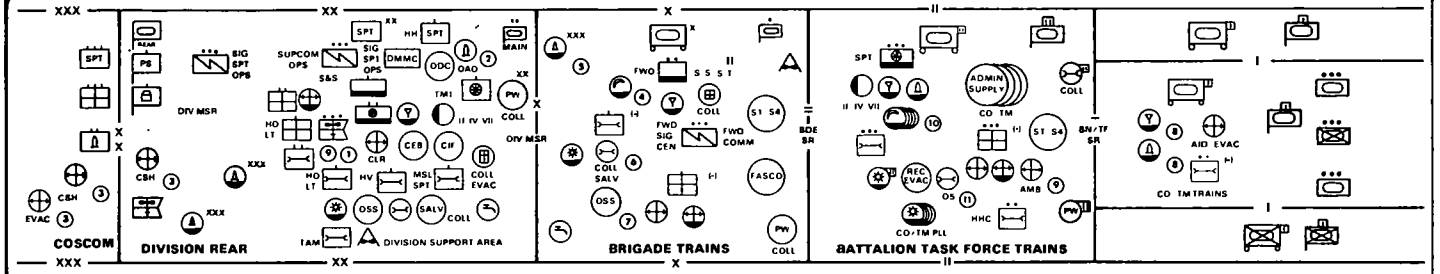
SUPPLY

Supply operations include determining requirements and requesting, processing, storing, and distributing items to fulfill those requirements. Divisional units stock some combat essential supplies of their own. Minimum stock levels for divisional units are prescribed by the division, or in some cases, by corps or by Department of the Army publications. Supply distribution is managed by the movement control element found in the division materiel management center.

Supplies are delivered to forward units by division whenever possible. This method of resupply, called *unit distribution,* is a process in which the supplier always delivers directly to the unit. Another method, called *supply point distribution,* is a process in which the user must go to a distribution point to pick up supplies.

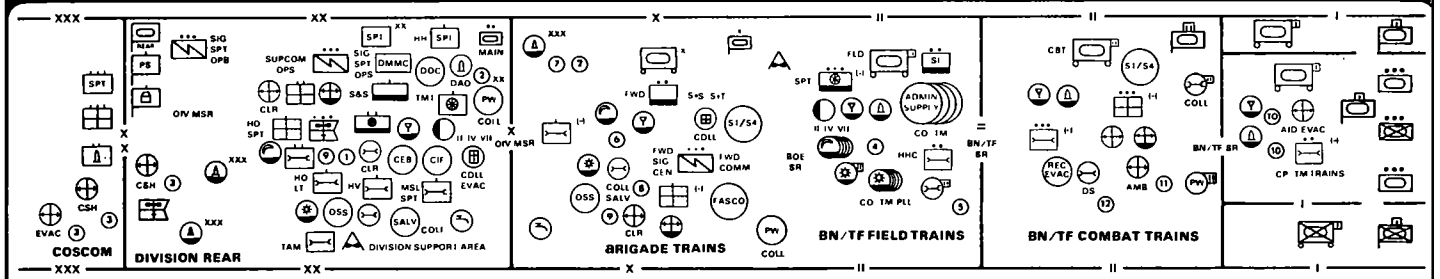
The division generally obtains its supplies from corps through supply point distribution. The division, in turn, uses a combination of supply point and unit distribution to supply subordinate units. Critical items in short supply may be delivered directly to the user by corps or theater support units. This method is most frequently used to provide major assemblies, ammunition, and fuel. *Warning levels should be established to indicate when an item or commodity is in critical supply and exceptional action is required to correct the situation.*

DEPLOYMENT OF LOGISTICAL SUPPORT ACTIVITIES IN ARMORED DIVISION WITH BATTALION TASK FORCE UNIT TRAINS



1. Air ambulance detachments may be placed in the division srea
2. Division ammunition representatives normally locate in or near ammunition supply points.
3. Normally a division is supported by two combat support hospitals and one evacuation hospital
4. When crew-feeding system is used, Class I point may be locsted in division support area.
5. Ammunition supply points may be located in brigade support area or in the division support area.
6. Maintenance and salvage collection points are operated jointly by the maintenance battalion and the supply and transportation battalion.
7. Quick supply stores issue over-the-counter, low-cost repair parts.
8. Fuel and ammunition vehicles may remain with the company team if situation requires. Normally these vehicles are located in the battalion task force trains.
9. Ambulance team is usually attached from the supporting medical company.
10. Mess teams may be consolidated and operate from positions farther to resr, particularly when crew-feeding system is used.
11. Direct support maintenance contact team is attached or placed in support.

DEPLOYMENT OF LOGISTICAL SUPPORT ACTIVITIES IN ARMORED DIVISION WITH BATTALION TASK FORCE COMBAT AND FIELD TRAINS



1. Air ambulance detachments may be placed in the division area.
2. Division ammunition representatives normally locate in or near ammunition supply points.
3. Normally a division is supported by two combat support hospitals and one evacuation hospital.
4. Mess tesms may be consolidated and operate from positions farther to resr, particulsrly when crew-feeding system is used.
5. Field trains may be collocated with brigade.
6. When crew-feeding system is used, Class I point msy be locsted in division support srea.
7. Ammunition supply points may be located in brigade support area or in the division support area.
8. Maintenance and salvage collection points are operated jointly by the maintenance battalion and the supply and transportation battalion.
9. Quick supply stores issue over-the-counter, low-cost repair parts.
10. Fuel and ammunition vehicles may remain with the company team if situation requires. Normally these vehicles are located in the battalion task force combat trains.
11. Ambulance team is usually attached from the supporting medical company.
12. Direct support maintenance contact team is attached or placed in support.

LEGEND

- POL Supply Point
- Class I (Rations) Supply Point
- Ammunition (All Typas) Supply Point
- Artillary Ammunition Supply Point
- Class VIII (Madical) Supply Point
- Class IX (Rapair Parts) Supply Point
- Multipla Class Supply Point
- Gravas Sarvica
- Watar Point
- Hospital or Aid Station
- Maintanancs Point
- Airfiald
- Rapair & Maintananca Unit
- Madical Unit
- Transportation Unit
- Supply Unit
- Ordnanca Unit
- Parsonnal Sarvicas & Administration Unit
- Financa Unit
- Signal Unit
- Aaromadicsl Evacuation Unit

To facilitate supply management, supplies are grouped into ten major classes:

■ Class I	Rations and gratuitous issue of Health, Morale, and Welfare Items;
■ Class II	Clothing, Individual Equipment, Tentage, Tool Sets, Kits, Hand Tool Sets, Administrative and Housekeeping Supplies, and Equipment;
■ Class III*	Petroleum, Oil, and Lubricants;
■ Class IV	Construction Materials;
■ Class V*	Ammunition;
■ Class VI	Personal Demand Items sold through post exchanges;
■ Class VII*	Major End Items such as Tanks, Armored Personnel Carriers, and Attack Helicopters;
■ Class VIII	Medical;
■ Class IX*	Repair Parts; and
■ Class X	Nonstandard Items to Support Nonmilitary Programs such as Agriculture and Economic Development.

* Class III, V, VII, and IX supply procedures were previously described in this chapter. Medical supply procedures (Class VIII) will be described under medical operations later in this chapter

Class I - Rations: Front-line units carry enough combat rations on board combat vehicles to last 3 to 5 days. When the situation permits, hot meals may be prepared. It is normal, however, for divisional units to use combat rations during combat operations.

Rations are delivered by COSCOM to Class I supply points in the division or brigade support area based on strength figures provided by the division G1 or adjutant general. Within the division, supply point distribution is used.

Class II and IV Supplies: These are issued by the lowest echelon having the item. Normally supply point distribution is used. Units submit requirements to forward supply elements in the brigade support area. Requests are forwarded to the division materiel management center for items not stocked by forward support elements, then to COSCOM for items not stocked by the division. The supply and transportation battalion or COSCOM delivers supplies to forward supply points in the brigade support area. Class VI supplies are handled in generally the same way.

Water distribution is made through water points operated by the engineer battalion. Divisional units normally pick up water at the nearest water point. When necessary, the supply and transportation battalion delivers water to units.

TRANSPORTATION

★The transportation motor transport company of the supply and transport battalion has light and medium cargo and fuel vehicles to support combat service support operations. Division transportation resources are controlled by the division transportation officer through the DISCOM Movement Control Officer. When there is insufficient transportation to meet divisional requirements, additional transportation, air or ground, is requested from corps. *If transportation is in short supply, the division commander or G3 must establish transportation priorities.*

Helicopters can be used to move troops and supplies rapidly about the battlefield. Utility helicopters, found in the division aviation battalion, can be used for this purpose; but their capabilities are limited. When additional utility helicopters or assault

support helicopters are required to support combat operations, they must be obtained from corps.

USAF tactical airlift can also be used to transport troops and supplies rapidly. Requests for tactical airlift are processed through the division transportation officer. USAF tactical airlift can be preplanned or immediate. Preplanned requests are forwarded by the transportation officer to the corps movement control center. Immediate requests are forwarded by the transportation officer through the division's tactical air control party to corps direct air support center.

SERVICES

Good finance, postal, recreation, religious, and legal services help commanders maintain morale.

Finance: The division finance company is normally located in the division support area. Forward support teams are organized for units located in forward areas.

Postal Service: Postal service is normally limited to pickup and delivery of personal and official mail. Restrictions must often be placed on the size and volume of packages handled by the system. Transportation going forward to combat units for other reasons, ration vehicles, for example, is normally used to deliver mail.

Religious services: Religious services are usually conducted for small groups by unit chaplains operating throughout the division. It is particularly important for chaplains to operate in forward areas where their services are most often needed.

Recreation services: Although opportunities for recreation are limited during combat operations, recreation services should be provided for those who can use them. Entertainment, field libraries, field service clubs, and organized athletics can help relieve boredom which often occurs in war.

Legal services: Legal services are provided by the division staff judge advocate who supervises and is responsible for the proper administration of military justice and other legal matters.

Laundry, Bath, and Clothing Exchange: The division has no capability to provide laundry, bath, and clothing exchange services. These services are provided by the supply and service company when augmented by a non-divisional field service company. When they are available, the DISCOM commander determines where they should be located.

Graves Registration: Graves registration is done by the supply and service company when augmented with a graves registration platoon. It is to be expected that during the early stages of combat operations, graves registration platoons may not be available. Therefore, it is necessary to train some divisional personnel in recovery, identification, care, and disposition of remains.

Remains are evacuated to collection points in the brigade support area, then to a collection point in the division support area, and from there to a corps collection point. The division G4 should also work with the corps G4 to obtain refrigeration equipment if available. Without refrigeration, remains must be interred immediately. **FM 10-63, Handling of Deceased Personnel in Theaters of Operations, contains additional information on graves registration procedures.**

MEDICAL

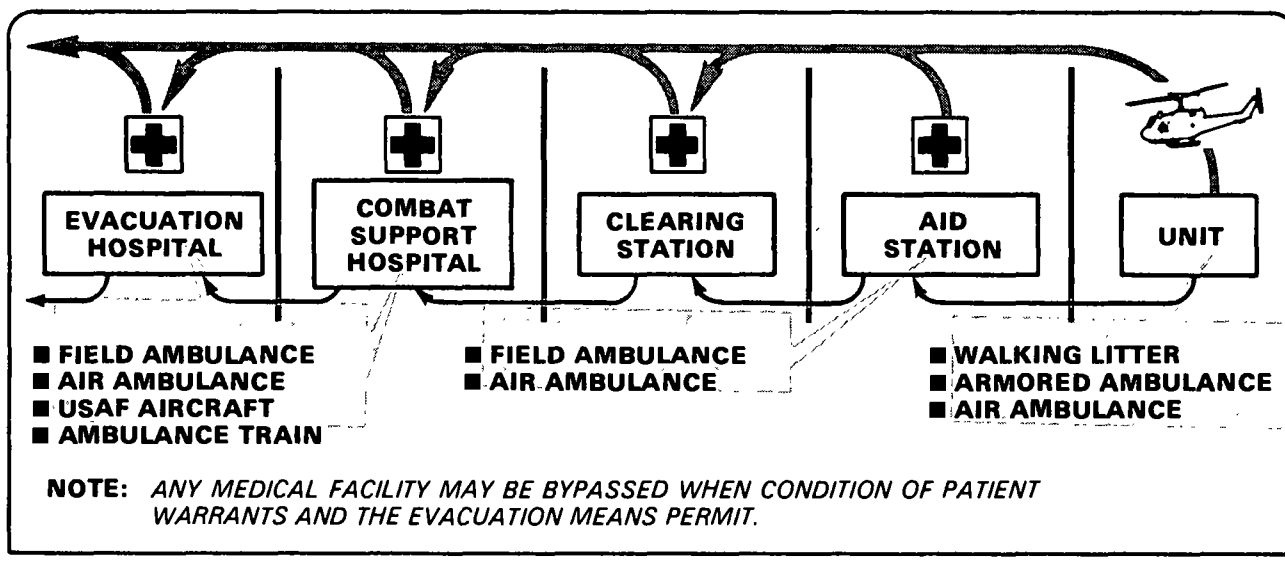
The division medical battalion evacuates patients and provides limited treatment to include emergency dental service, psychiatric treatment, and optometry services. The battalion is organized with a headquarters and support company and three medical companies. One medical company normally operates a clearing station in each brigade support area. The headquarters and support company operates in the division support area.

Patients are evacuated no further to the rear than their conditions require. Depending on the seriousness of the wound, they may be moved directly to a division clearing station or to a corps combat support hospital. Casualties evacuated to a division clearing

station remain there only as long as it takes to treat and return them to duty or prepare them for further evacuation. From the division clearing station, casualties may be evacuated to a corps combat support hospital or to a corps evacuation hospital for further evacuation to a general hospital in CONUS.

For a number of reasons it is important to clear the combat area of casualties quickly. Evacuation should be by air ambulance whenever possible. Ground ambulances are used when air evacuation is impractical or when there is an insufficient number of air ambulances available.

The medical battalion keeps battalion aid stations stocked with medical supplies (Class VIII). It, in turn, obtains supplies from a corps medical supply, optical, and maintenance unit. Resupply is most often done by ambulances returning to forward areas.



COMMAND CONTROL OF COMBAT SERVICE SUPPORT OPERATIONS

In order to exercise command control of combat service support operations, it is necessary to obtain information. To do this, it is first necessary to determine what information is required, when it is required, how best to obtain it, and then to establish procedures for getting the information needed. Some information of a recurring nature can be provided by *automated data processing* (ADP) equipment. Information normally stored in this equipment includes:

- **Major end items**—quantities, location, and status (Class VII),
- **Repair Parts**—quantities, location, demand, and full data (Class IX),
- **Personnel**—strengths, casualty, and replacement data; and
- **Maintenance Management**—input and output of shops.

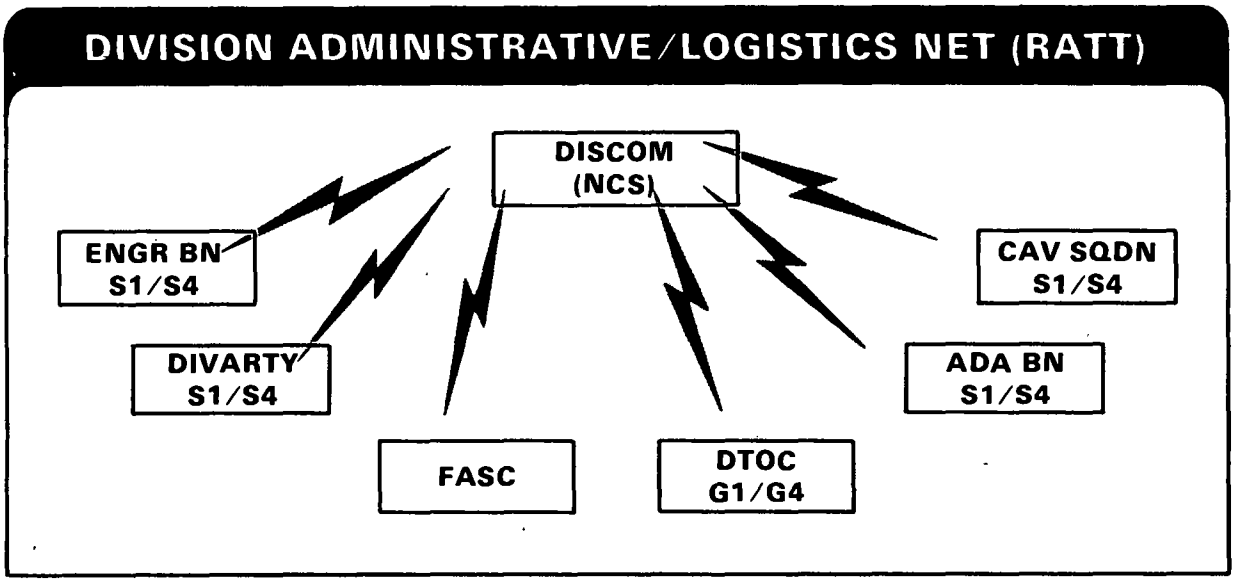
ADP equipment sites should be protected and procedures established for access to non-divisional ADP equipment should divisional equipment become inoperative.

All other combat service support information is processed manually through divisional or corps communication nets or by messenger.

Much information of a critical nature such as status of fuel, ammunition, operational

weapon systems, and crews, can come from a good battlefield information-reporting system. Other information is provided through the division administrative/ logistics net over radio teletype (RATT) equipment.

Information is normally transmitted over this net in the form of standardized reports or requests for assistance. It is usually more detailed although less timely than that which can be obtained through a battlefield information-reporting system.



Combat service support information can sometimes be delayed due to pressing tactical requirements. When this is the case, messenger service, normally used for bulk traffic, may be the fastest and most secure means to transmit information.

REAR AREA COMBAT OPERATIONS

The division commander will seldom have combat units available to provide for protection of combat service support units. So the DISCOM commander must make provisions to provide for rear area protection from his own units. Frequently it will be necessary to employ divisional military police units in this role.

Because lines of communication are vulnerable to enemy aircraft, or in some cases guerrilla or regular forces operating in the division area, supplies or support teams dispatched may not always arrive. Therefore, *procedures should be established whereby a unit reports if requested assistance or supplies have not arrived in a reasonable amount of time.* For example, the unit could be informed over secure communication means when critical supplies are dispatched and instructed to inform the G4 if they have not arrived by a specified time.

CHAPTER 7

Command Control of Combat Operations

Despite the most careful planning and anticipation, unforeseen circumstances and just plain mistakes can always be expected to disrupt the best of plans.

The great German von Moltke once remarked to the effect, that no plan survives first contact with the enemy. And so it is today. A commander must learn to regard these happenings as commonplace and not permit them to frustrate the accomplishment of his mission.

Command is very personal business—no two commanders operate alike. Regardless of personality differences, however, there are certain things every commander must do to be successful in battle.

Whether the force is large or small, and whether the functions of command are complex or simple, the commander must control. His must be the master mind, and from him must flow the energy and momentum which drives all under him. This is the essence of *command.*

In order to command, the commander *must get information.* How he does this has been described in previous chapters; it will be commented on again in this chapter.

Based on what he knows about the situation, and on his own judgment and experience, the commander decides how to go about doing what must be done. *Decision as to a specific course of action is the responsibility of the commander alone.* He will seek and may accept the counsel of his staff and subordinates, but he alone must decide how his command, as a whole, will execute its mission. He alone is responsible for what his unit does or fails to do.

The commander cannot plead absence, or nonreceipt of orders as an excuse for inactivity in a situation where action on his part is essential, or where a change in the situation renders issued orders impracticable or impossible to execute. If the situation does not permit communication with the higher commander, and the subordinate commander has in hand the general plan—knows the mission of the command as a whole—he must take appropriate action and report the situation as early as he can.

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Once the commander has decided on a specific course of action, he *assigns tasks and missions* to subordinate units and *allocates the forces* to accomplish them. In other words, he tells them:

- **what he expects them to do,**
- **what he believes they need to do it, and**
- **what he can afford to give them to do it.**

When the battle is joined, the commander *directs the operation.*

The commander's decision and missions and tasks for subordinate units involved in the decision must be communicated in clear and concise orders. Normally these will be mission-type orders. That is, they will set forth clearly and precisely what the commander expects his subordinate units to do. As a general rule, how a subordinate unit goes about accomplishing its mission is left to the discretion of the subordinate commander. There is, to be sure, *a rather fine line between a spelled out description of what must be done and the details of how the job must be accomplished.* But the commander must be confident that he has communicated clearly to his subordinates what they are to do, given them enough resources to accomplish the job, and restricted their execution only to the extent necessary to insure coordination of fires, maneuver, and support between subordinate units. By doing this the commander gives his subordinates freedom of action appropriate to their professional ability and dependability, the situation, and the control he feels it prudent to exercise.

SUCCESS ON THE BATTLEFIELD GREATLY DEPENDS ON THE COMMANDER'S ABILITY TO COMMUNICATE ORDERS CLEARLY AND CONCISELY

Orders are normally issued to the next subordinate commanders. Bypassing normal channels of command is resorted to only in urgent situations. In such cases both the commander issuing and the commander receiving the order should notify intermediate commanders of its contents as soon as possible. An order, as described in chapter 3, may be complete, fragmentary, or simply a warning to prepare for an operation. *Fragmentary orders are most common in the*

division. Orders must be clear, explicit, and as detailed as necessary to be understood. They may be issued orally or in writing. *The best way is to issue orders face-to-face.* Samples of orders are contained in appendix B.

Clarity is more important than technique. Detailed instructions for a wide variety of contingencies or instructions that are a matter of training or part of the SOP have no place in an order. Meaningless phrases are to be avoided.

However, *upon entry into action, no one should be in doubt about what the commander wants him to do.* Ignorance of the commander's intentions—an unclear view of what is expected—can lead to disaster in battle.

Orders should describe events only so far as they can be foreseen. Orders which attempt to regulate matters too far in the future result in frequent changes. Frequent changes in orders overload the means of communication, cause confusion and misunderstanding in staffs, impose needless activity and, perhaps, hardships on troops. Frequent changes in orders can also bog down units in fruitless planning exercises which are forever changing.

Orders issued by subordinate commands should not merely repeat orders from higher authority with local additions. New orders, which apply directly to the echelon being addressed, are clearer, much more satisfactory, and, indeed, necessary.

To avoid omissions and misunderstanding, following a standard logic or procedure when communicating orders is necessary. Examples of combat orders, which follow a standard sequence, can be found at the end of this chapter.

In every unit, *standing operating procedures* (SOP) are prescribed by the commander whenever practicable. Standing operating procedures cover those normal operational matters that are routine or that lend themselves to definite standardized procedures. The adoption of such procedures will save time in the preparation and issuance of orders, minimize chances for confusion and

errors when under stress of combat, and greatly simplify and expedite execution of operations in the field.

After issuing his orders, or providing for issuance of his orders by the staff, the commander places himself where he can best control the operation. He finds out quickly how the battle is going and issues the necessary instructions about what to do next. The division commander normally operates from a small tactical command post (TAC-CP) with a small staff. The balance of the division staff operates from the main command post (MAIN). The division TAC-CP will normally be sited in the general area of forward brigade command posts. The division MAIN will operate further from the action—perhaps in the general area of the division support command (DISCOM). Command post operations are described later in this chapter.

COMBAT INFORMATION AND INTELLIGENCE

The commander must have information about the enemy and the area of operations. Some of this information will be fairly constant—terrain, weather patterns and expectations, enemy organization, equipment, and general capabilities. This kind of information provides the general backdrop against which all operations are conducted. While it is important, *the most important information the commander must have is the relatively perishable knowledge of how things are going—what events are in progress as his command pursues its mission.* The closer to real time a commander knows this kind of information, the greater are his chances to influence the battle. Intelligence summaries, periodic intelligence reports, and scheduled briefings, while appropriate under some circumstances, cannot serve commanders who must have immediate information about situations that will change very very rapidly.

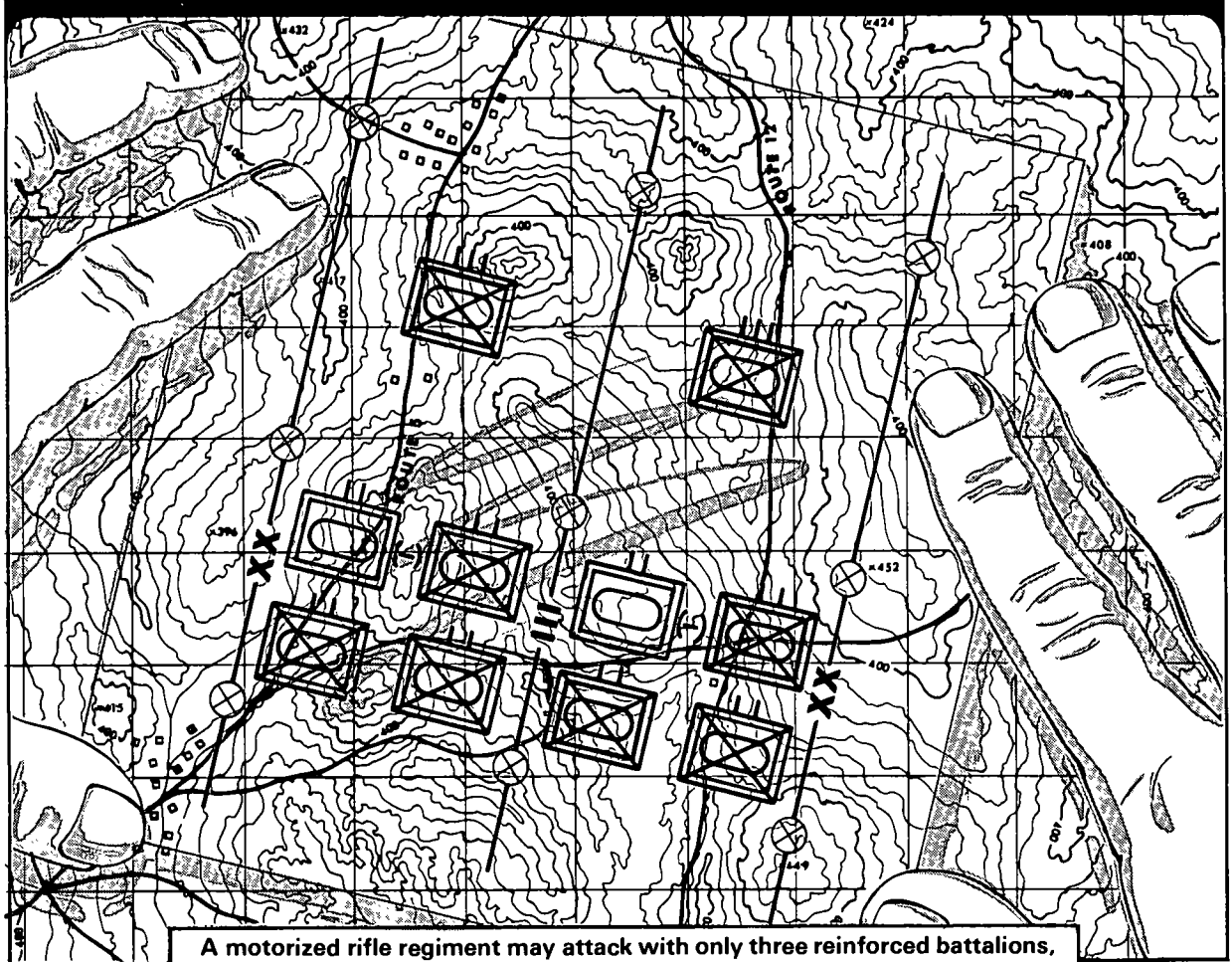
Therefore, it is necessary to consider the difference between *Intelligence* and *Combat Information.* If raw data, as received, can be used to make decisions about fire or maneuver, with little or no interpretation or integration with other data, it is considered *Combat Information.* If the raw data requires validation, integration, comparison, or any other form of analysis beyond an almost perfunctory check, it becomes *Intelligence.* In other words, the definition depends on how the information is handled and how it is used.

Once an operation begins, most intelligence acquired by the division is a by-product of combat operations. *Combat Information,* even though used immediately, may still be of vital importance as intelligence. In such a case, the same data satisfies both definitions, but in turn—*Combat Information* first, then *Intelligence.* Intelligence-collection systems acquire a great deal of *Combat Information.* These systems must be designed so that they search out and focus on the perishable data the commander needs to direct the battle. To this end the commander must specify what he needs to know, then insure that his intelligence systems are templated to focus on that information, and that a system exists for bringing it to him quickly, wherever he is on the field of battle. The commander must also insure that linkages exist in the intelligence-collection systems to feed *Combat Information* to all who need it as rapidly as possible. Such information must be routinely sent to higher, lower, and adjacent commands for fusion—processing into the broader, general informational data base that we have called *Intelligence.*

As mentioned in Chapter 3, *Preparation for Combat Operations,* templates can be developed that permit the division commander to learn and to pass to his brigade commanders combat information before it has been analyzed and turned into intelligence. For example, the division area of interest can be templated so that when actual conditions (events there) reach a predetermined threshold—number of emitters, tanks, and vehicles—in a certain area, the commander will quickly know and take action. Or he can quickly inform his brigade commanders so they may act.

The division commander may use templates in two forms—event (or situational) and doctrinal. A doctrinal template of a combined arms army in the attack showing frontages, depth, echelon spacing, composition and disposition, and strength of subordinate elements, can be prepared to scale in graphic form on acetate and displayed on a map. Doctrinal templates can be prepared for any enemy operational scheme: attack, defend, withdraw, reinforce, and for each specific capability—course of action available to the enemy within the constraints of terrain and weather. Below is an example of such a template depicting a motorized rifle division in the breakthrough.

DOCTRINAL TEMPLATE OF MOTORIZED RIFLE DIVISION IN THE BREAKTHROUGH



A motorized rifle regiment may attack with only three reinforced battalions, attaching all the tanks to the motorized rifle battalions.

Actual deployment on the ground must always be modified by terrain, weather, time, and other factors. The event template relates the enemy disposition developed in the doctrinal template to the effects of terrain, weather, time, and a specific avenue of approach.

An event template is a model of enemy activity related to time. An enemy force preparing for a course of action usually does certain things, normally in sequence or concurrently. As an example, the enemy normally conducts reconnaissance and moves into assembly areas before an attack. He pre-positions supplies, POL, and ammunition. He also moves command posts and displaces his artillery forward. *These events are indicators of his intentions; they can be related to time and to a possible course of action, much like the following example.*

EVENT INDICATORS

(ENEMY EVENTS IN REVERSE ORDER)

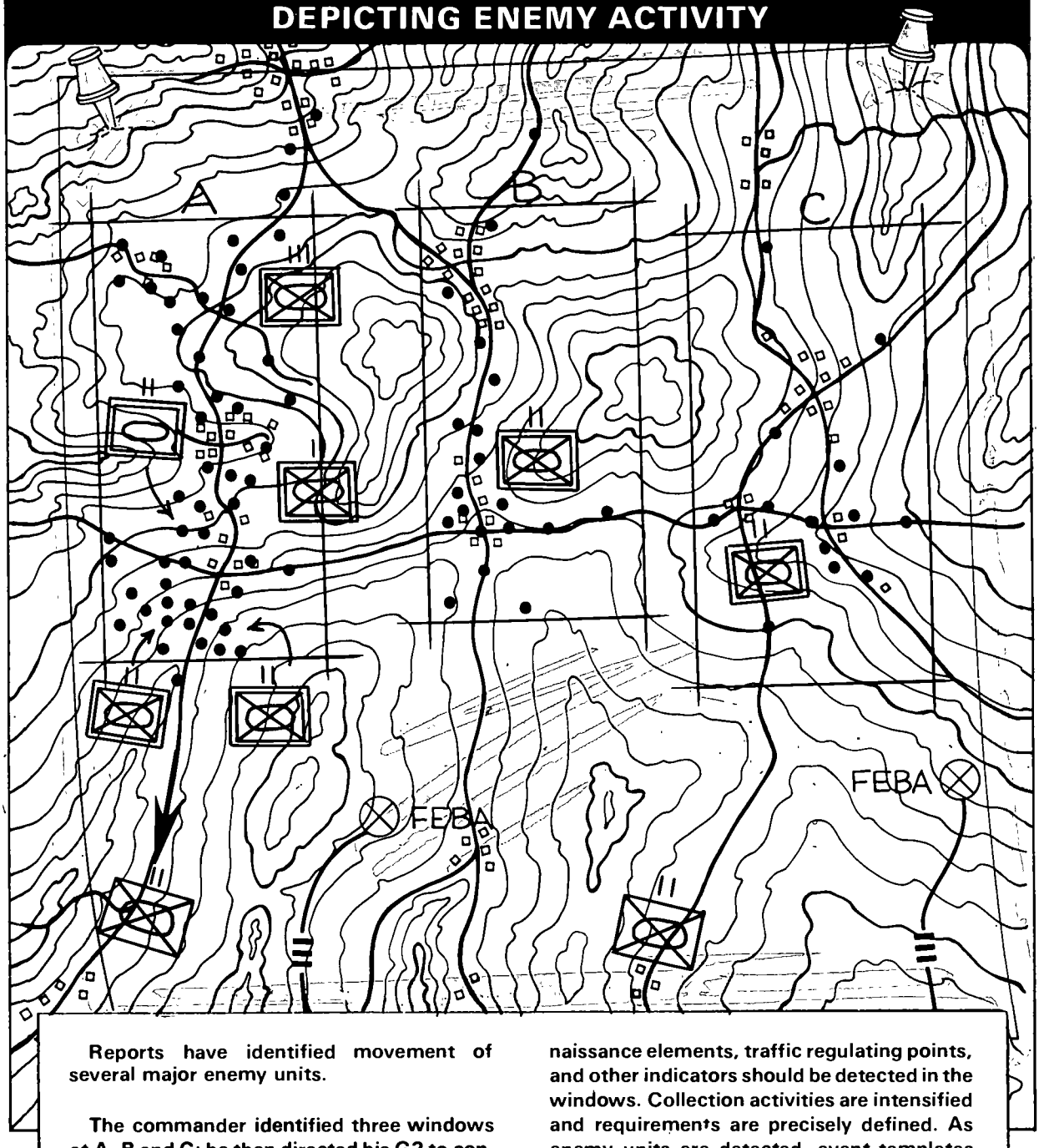
	INDICATORS	TIME*
1.	Arty Well Forward & Massed (Abnormally Increased Transport) (LOG)	H-4
2.	Movement of Maneuver Forces in Pre-Assault Formations—Compact Columns—Along Converging Axis For Concentration at Point of Breakthrough (From Assembly Areas 15-20 kms Rear of FEBA).	H-3
3.	Increased Communications	H-3
4.	Air Defense Units Deployed Well Forward in Pre-Assault Formations	H-3
5.	Engr Operations—Clearing Routes of Advance and Stabilizing Flank Security Through Emplacement of Mines & Obstacles	H-2
6.	Intense Arty Preparations	H-1
7.	Maneuver Force Deployment Into Final Attack Formation	H-1
8.	Increased Communication	H-1
9.	Assault—Simultaneously With Lifting of Arty Preparatory Fires	H-hour
10.	Deployment of Airmobile Forces to Block Advancing Reserves	H-hour

Timing does not necessarily reflect* **Threat *doctrine.*

Overlays can be prepared identifying critical terrain locations that can serve as windows through which the commander may view enemy activities. When enemy activity coincides with a series of events expected for a particular template, the commander is alerted. Intelligence requirements are refined, and collection is focused with more precision on certain areas at specific times.

The example illustrates how an event template can help focus the commander's attention and resources on determining what to expect from the enemy.

EVENT TEMPLATE DEPICTING ENEMY ACTIVITY



Reports have identified movement of several major enemy units.

The commander identified three windows at A, B and C; he then directed his G2 to concentrate the collection effort on those areas. If the enemy is prepared for an attack, reconnaissance elements, traffic regulating points, and other indicators should be detected in the windows. Collection activities are intensified and requirements are precisely defined. As enemy units are detected, event templates help indicate where the main attack will most probably occur.

BY PROPERLY DIRECTING THE EFFORTS OF HIS INFORMATION-GATHERING OPERATIONS, THE COMMANDER CAN GAIN THE INFORMATION HE NEEDS TO MAKE DECISIONS

Thus, by properly directing information-gathering operations, the commander can gain the perishable information he needs to make decisions. The commander can orient the efforts of his collection agencies by using templates. Collection agencies can provide him continuous surveillance of enemy activities and key locales which will indicate enemy intentions—where, when, and how he will attack, defend, or take some other course of action. Electronic means continuously monitor enemy command control nets, search for radars, and monitor logistics activity to identify and locate major weapon systems and troop concentrations. When they are identified and located, the commander can begin to assess enemy intentions. Imagery can locate tank and artillery buildup. Imagery from overhead platforms can look deeply into the enemy area of operation to look for succeeding echelons of enemy forces. Prisoners of war, refugees, and other human sources can also provide information about enemy intentions.

In the division, brigades and battalions normally fight against the enemy first echelon. In defense they fight the first echelon regiments of the first echelon division, and the second echelon regiments of those divisions as they close to join the fight. Therefore, *it is important for brigade and division commanders to know where those second echelon regiments are and what they're doing.* This is so the brigade and division commanders can move battalions to engage second echelon regiments as they enter the fight. During offense, it is necessary for those same commanders to know where second echelon enemy regiments are and how they are disposed to fight. Thus, battalions can be applied to the fight in the best way to destroy the integrity of enemy first echelon division defenses, penetrate into the soft areas between the first and second echelon divisions, and there wreak havoc. In like manner, the division commander must look deep, find second echelon divisions of the first echelon army, and move brigade and battalions to engage targets or to break through.

The division commander has limited surveillance and target acquisition means.

His ability to find second echelon regiments of first echelon divisions is probably fairly accurate. But the means to find second echelon divisions of the first echelon army must be provided from outside the division. Since finding those divisions is critical to the division commander's conduct of the battle, he must mount a continuous aggressive, relentless, and vigorous campaign to see deep, find the enemy, move rapidly, strike hard, and finish quickly.

As the pace of battle quickens, it will be necessary for the commander to take extraordinary measures to obtain good, timely information about where his units are, what they are doing, and what the enemy they may be fighting is doing. In the heat of battle, information is often difficult to obtain. *The best information comes from units in contact.* However, commanders of these units are usually the busiest and have little time to report information to a higher headquarters other than through requests for additional support. Nonetheless, the division commander must establish a system to get the necessary information to direct the battle.

THE COMMANDER HIMSELF MUST ESTABLISH A SYSTEM TO GET THE NECESSARY INFORMATION TO DIRECT THE BATTLE

The fastest way to get information is by monitoring command nets of leading battalion task forces and fire control nets of supporting field artillery. Division command posts are seldom able to do this due to range limitations of the FM radios used by battalions for command control. So, information from leading task forces is reported sequentially from platoon, to company, to battalion, to brigade, and then to division. With this system, there will always be a considerable loss of time in reporting and accuracy in content. This is true of reports from subordinate elements, from higher headquarters, and from agencies outside the division on which the commander depends for vital *combat information.* Every echelon, every node, every terminal, or other link through which information passes slows its transmission and distorts its content. This has always been true. General George Marshall wrote how he used carrier pigeons dispatched from front-line battalions to keep General Pershing, as well as the corps, division, and regimental commanders

informed of essential combat information in the St. Mihiel salient in 1918. In World War II the British Army used the Phantom Service to obtain critical combat information. General George S. Patton, Jr. used his Army Information Service in Third Army, and German panzer formations habitually monitored, at group (Corps) level, command nets of their own lead tank regiments. All this was done to solve the problems of timeliness and accuracy that are always present in a sequential reporting system. Obviously, there are several ways this may be done. They range from physical location of the commander and of his TAC-CP to extraordinary communication setups designed to provide the commander direct access to his elements fighting the first echelon. But, it must be done, and it requires careful planning and will probably demand the expenditure of some resources. So, the commander must give it his personal attention.

COMMAND POST OPERATIONS

Commanders generally organize command posts to suit themselves. The following description of a tactical and main command post is one way to organize these activities with the resources available in a heavy division.

DIVISION TACTICAL COMMAND POST

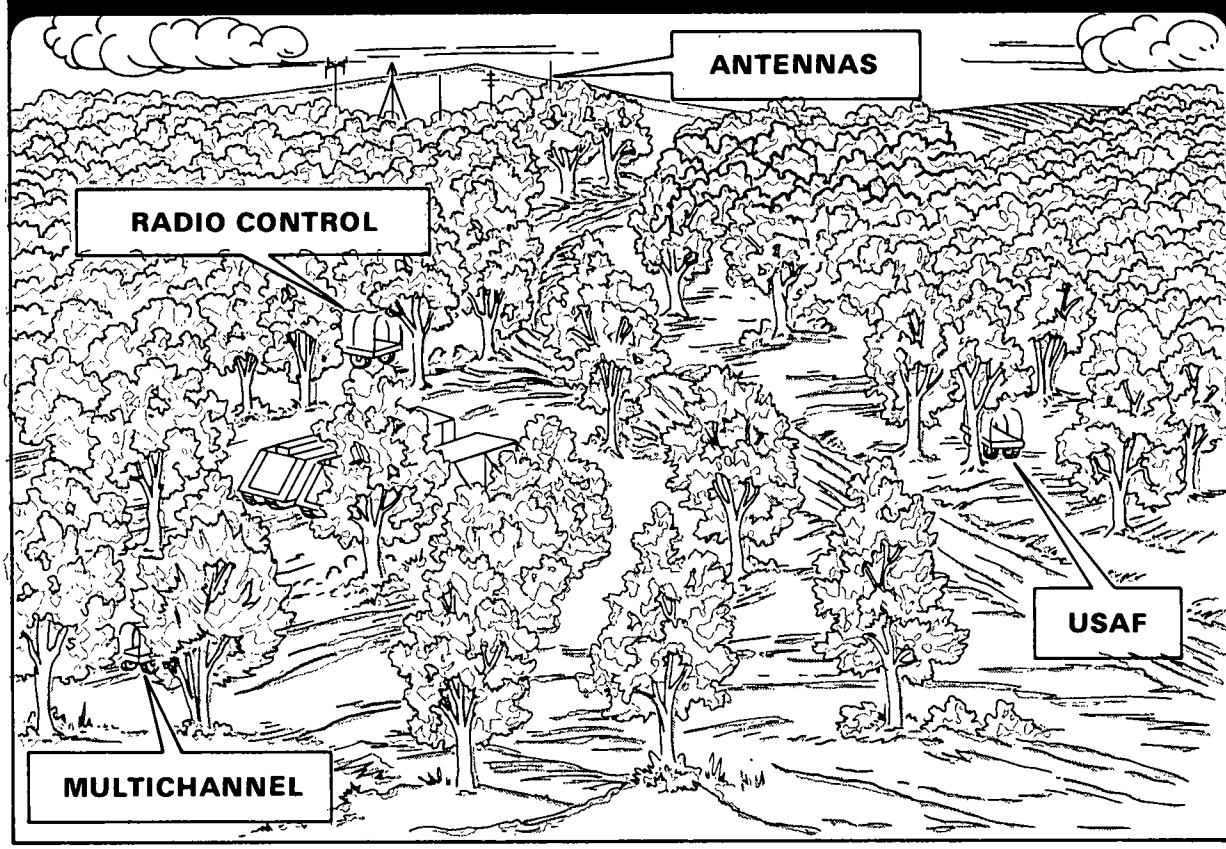
THE DIVISION TACTICAL COMMAND POST SHOULD LOOK LIKE A BATTALION TASK FORCE HEADQUARTERS TO DECEIVE ENEMY INFORMATION—GATHERING AGENCIES

As described in chapter 3, the tactical command post should be very small. *Its size and electronic signature should be no larger than that of a brigade command post (four or five vehicles).* Ideally it would look more like a battalion task force headquarters. It is generally organized with the G3, a USAF air liaison officer, and the division artillery commander or his assistant fire support coordinator. From time to time, the G2 or his assistant, the G4 or his assistant, and the air defense artillery battalion commander may also operate from the tactical command post. Staff officers operating from the tactical command post should bring with them only the minimum number of helpers necessary

for the essential support needed by the commander in the forward area.

There will always be a tendency to expand the functions and, so, the size of any command post. This is particularly so in the case of the tactical command post since the commander normally takes station there. Therefore, it is necessary to guard against expansion lest the command post becomes cumbersome, less mobile, and more identifiable by enemy information-gathering agencies. Four or five armored command control vehicles should be sufficient for operational needs.

DIVISION TACTICAL COMMAND POST CONFIGURATION COVERED AND CONCEALED FROM THE AIR



The tactical command post site is normally selected by the commander or his G3 with advice from the signal battalion commander. The location should provide for good communication with brigade command posts, division main command post, division materiel management center, corps tactical command post, and, if possible, leading battalion task forces. But, the TAC-CP itself should not be located atop the highest hill, just so the communications will work well. It should be located near routes to the division main command post and the brigade command posts. Care should be taken not to site near permanent land marks which could give away the location. It is best to locate command post operational vehicles in buildings near the edge of a built-up area for good cover and concealment. Essential communication equipment must be located some distance away with remote links to operational vehicles. These remote connections

should be wire/cable to the maximum extent possible, so as to help reduce the emission signature of the TAC-CP.

Two dedicated FM secure voice nets provide the primary communication link between the tactical command post and brigade command posts. Communication support for the tactical command post is provided by a platoon from the divisional signal battalion command operation company. Division communication nets are described later in this chapter.

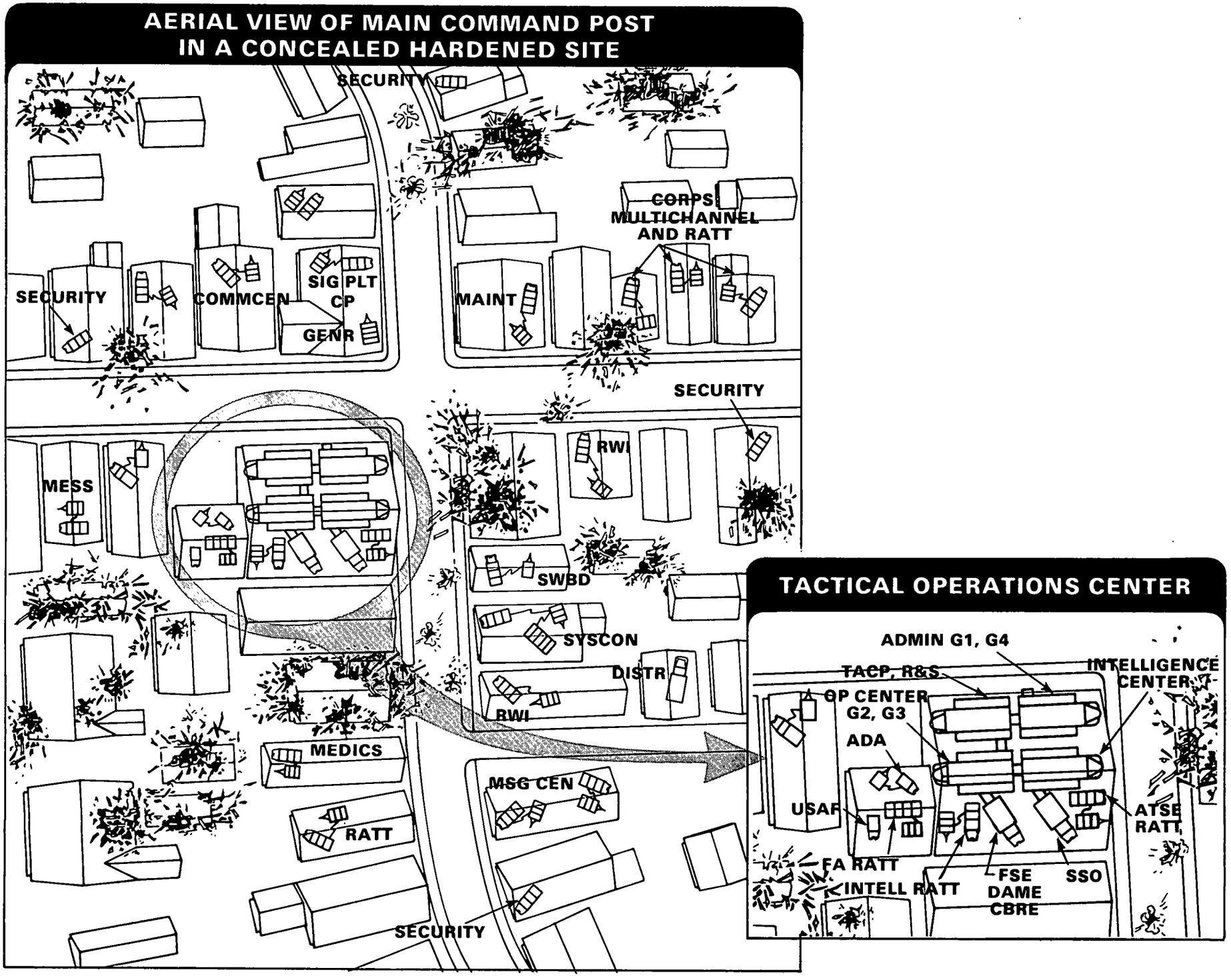
As the battle unfolds, it is to be expected that the TAC-CP will move frequently. It must be capable of doing so both day and night. Once a new site has been selected, the signal battalion should establish essential communications into it prior to arrival of the commander and the TAC-CP.

THE TAC-CP IS EXPECTED TO MOVE FREQUENTLY WHILE STILL MAINTAINING CONTROL OF THE DIVISION

When the TAC-CP is relocating, control of the division can still be maintained while it is moving. An alternative, if conditions permit, is a command control helicopter. Normally, however, on an armored battlefield against an enemy with a fully developed air defense system, it will be ill-advised to rely on helicopters for command control.

DIVISION MAIN COMMAND POST

The division MAIN is located further to the rear. It should be positioned out of range of enemy artillery. Most of the division staff, normally supervised by the chief of staff, operates from the MAIN. In addition to the chief of staff section, elements of the G1, G3, and G4, and the air defense artillery, aviation, fire support, and chemical, biological and radiological warfare sections will be there. The G2 section, a tactical air control party element, and a combat electronic warfare and intelligence battalion element, which organizes the main command post intelligence center will also be present. Additionally, the signal battalion's system control element also locates at the MAIN. Communications support is provided to the MAIN by the command signal center platoon. Although the division commander will seldom have sufficient forces to dedicate combat forces to command post security, the military police company security platoon can provide some security.


AERIAL VIEW OF MAIN COMMAND POST
IN A CONCEALED HARDENED SITE
SECURITY
CORPS MULTICHANNEL AND RATT
SECURITY
COMMCEN
SIG PLT CP
GENR
MAINT
SECURITY
MESS
RWI
SWBD
SYSCON
DISTR
RWI
MEDICS
MSG CEN
RATT
SECURITY
TACTICAL OPERATIONS CENTER
ADMIN G1, G4
TACP, R&S
INTELLIGENCE CENTER
OP CENTER
G2, G3
ADA
USAF
ATSE RATT
FA RATT
INTELL RATT
FSE
DAME
CBRE
SSO

The MAIN is primarily a coordination, information, and communications center. Planning for future operations is also done there.

Its primary functions are to coordinate those activities not coordinated by the TAC-CP, provide necessary reports and information to the TAC-CP and to corps, and to integrate and disseminate intelligence from all sources.

If the TAC-CP is destroyed or disrupted for some reason, the MAIN will control combat operations. The division artillery command post or a brigade command post may also be used to control operations. *The MAIN should be well dug in.* A hardened site of any kind is ideal. Towns, villages, cities, and factory complexes are all suitable. Emitters must be remoted as is done at the TAC-CP. Electronic, infrared, and other vulnerable signatures should be reduced to a minimum.

ALTHOUGH THE MAIN IS PRIMARILY A COORDINATION, INFORMATION, AND COMMUNICATIONS CENTER, IT WILL CONTROL COMBAT OPERATIONS IF THE TAC-CP IS DESTROYED

It is both possible and necessary to conduct an organized operations security (OPSEC) effort at the MAIN to reduce the probability of detection and disruption of operations by enemy elements. One must start by realizing the MAIN will be a principal target of enemy surveillance systems—electronic, infrared, photo, human—directed from all sorts of platforms—from satellites to soldier boots. Therefore, the MAIN must always have an operations security plan underway. Measures, both active and passive, will have to be used in cleverly devised and constantly changing patterns which are in themselves deceiving about, as well as representative of, normal command post operation.

In all command posts there are routine procedures by which messages, letters, memorandums, and other information flows in, out, and within the headquarters. This information runs through nodes—the nodes are the message centers. Perhaps more than any other single factor, *headquarter's efficiency depends on the efficiency of its message centers.* Because these message centers are deluged with more information from more sources than ever before, and because they are administrative instead of operational activities, they tend to be terribly inefficient from an operational standpoint. It

will, therefore, be necessary to take extraordinary measures to insure that the flow of combat information is not impeded by the routinism so characteristic of message center operations. The commander should normally charge his chief of staff with the responsibility for defining and implementing these extraordinary measures. But they must be established and the commander must insure that they are. For if they are not, the whole command can be immobilized by the lack of responsiveness often displayed by the message center in its various headquarters.

DIVISION SUPPORT AREA

The DISCOM headquarters, some staff, and other elements locate in the division support area. These may include G1 elements, counterintelligence and interrogation elements from the combat electronic warfare and intelligence battalion, military police and provost marshal elements, and a tactical airlift element from the USAF tactical air control party.

STAFF OPERATIONS

The *staff* assists the commander by providing information, data, counsel, preparing plans and orders as he may direct, and by exercising such supervision over the execution of his orders as he may prescribe. *It is important for staff officers to remember that they are not in the chain of command, that their role is one of only providing assistance to their commander.* It is also important for the commander to remember that staffs have some real and ever-present limitations. Staffs do routine things; an efficient, well organized, and highly motivated staff can do routine things very well. However, as a general rule, long-term goals of the organization (decisionmaking and the development of good initiatives to get something moving) will not just bubble up out of the staff as a matter of course. *The commander identifies goals, decides where his outfit is going, announces those goals and directions, and takes the initiative.* The commander may rely on his staff to some extent for these matters, but he must take the

THE STAFF HELPS THE COMMANDER MAKE DECISIONS BY PROVIDING INFORMATION, DATA, COUNSEL, AND BY EXERCISING SUPERVISION OVER EXECUTION OF HIS ORDERS

initiative himself. For to the extent he does not, to that extent his headquarters will lean towards bureaucratic lethargy, inaction, indecisiveness, unresponsiveness, and thus, ineffectiveness. He may receive good ideas from a small handful of staff or other officers in his organization, but *HE* is the one who must ultimately translate them into action, one way or another.

REPORTS

★Critical information of immediate importance to the commander is reported as described earlier in this chapter. As a general rule, the commander must receive the following:

- **enemy location, size, and direction of movement;**
- **composition, location, and activity of friendly battalion size maneuver and fire support units;**
- **availability and status of attack helicopter units and close air support;**
- **fuel and ammunition status of battalion task forces in contact, and of their supporting field artillery; and**
- **combat vehicle losses of battalion task forces and their supporting field artillery.**

Less critical information is provided to the staff through periodic, spot, or summary reports. The commander must specify what information can be reported to the staff through these reports.

The commander and staff officers use reports to obtain and distribute information about the commander to subordinate, higher, and adjacent headquarters. Only those reports *required to meet essential* needs for information should be required of subordinate commands. Continued review of the content and validity of recurring reports eliminates unnecessary items and duplications.

DISPLAYS

Staff sections should maintain only the minimum number of informational displays required to keep members of their sections and the commander informed of frequently needed, essential information.

The operations element in the tactical command post normally maintains a situation map. The intelligence officer is responsible for insuring that the enemy situation and other appropriate information is correctly posted on this map. The MAIN command post also maintains a situation map that graphically portrays information passed on from the tactical command post and information received directly from other sources. These situational displays must be integrated. *It is not possible to operate if intelligence, operations, logistics, and other staff elements do not contribute to an integrated posting of clearly identified information elements on a central situational display.* A battle information report is an ideal vehicle to focus staff attention on what must be posted on this central display. Staff elements may maintain separate, more detailed displays for the conduct of staff operations, but their primary responsibility is to the commander's need for information and the displays that provide it to him. Journals are normally maintained to record significant events.

Simple displays that show the status of combat units are also useful tools for the commander and staff. Such displays should be designed to reflect the status of major weapon systems and their crews, and the amounts of fuel and ammunition available throughout the division.

The following charts describe typical staff functions at each command post. **FM 101-5, Command and Control of Combat Operations, describes staff operations in detail.**

FUNCTIONS OF PRINCIPAL STAFF SECTIONS

Section	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
G1 Section	Keeps commandar and staff informed on personnel situation and availability of replacement crews. (G1 section performs this function when operating with tha tactical command post.) It also informs G1 on status of battle, craw and other vital personnel losses, and of changes in priorities.	Davalops personnel appraisals, and coordinatas personnel replacement operations between tactical command post, Main, and DSA.	Keeps record of unit strengths, manages personnel, provides health services, and maintains discipline and law and order.
G2 Section	Provides commander with intelligence from intelligence center at Main.	Plans collection effort, manages collection effort, integrates intelligence from all sources, analyzes, produces, and disseminates intelligence, plans and coordinates reconnaissance and surveillance activities, and disseminates weather information.	Coordinates counterintelligence activities and intarrogates prisoners of war and civilian detainees.
G3 Section	Coordinatas staff operations at tactical command posts, maintains current friendly situation and unit status, supervises preparation of written orders, recommends allocation of forcas, and processes immediate close air support requests.	Prepares operation plans, receives, processes, and approves preplanned close air support requests, coordinates tactical troop movements, maintains troop lists, and provides staff supervision for conduct of electronic warfare and psychological operations.	
G4 Section	Keeps commander and staff informed of logistics situation, status of weapon systems, fuel, ammunition, maintenanca capabilities, and replacement weapon systems. (G4 section performs this function whan operating with the tactical command post) It also informs G4 status of tha battle, weapon systems and other critical employment losses, and of changes in priorities.	Coordinates, as necessary, between forward brigades and division support area elements for logistics support. It also plans for future operations	Plans for and exercises staff supervision of divisional supply, service, maintenance, medical, and transportation activities TACP elements responsible for tactical airlift are collocated with G4 elements here.
G5			Coordinates civil/military operations to include civil affairs and psychological aspects of current or proposed operations as they affect the civil populace.

FUNCTIONS OF SPECIALIZED STAFF ELEMENTS

Element	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
Special Security Office		Provides link to special intelligence information from higher, lower, and adjacent intelligence-gathering services.	Interrogates prisoners of war and civilian detainees.
CEWI Battalion Element		Staffs intelligence center, assists G2 by planning and managing collection effort, analyzing combat infor mation and intelligence from all sources, and producing and disseminating intelligence for the division. Conducts terrain analysis, updates maps, and prepares map supplements from photography. Assists G3 in planning and coordinating electronic warfare operations and conducts operations security survey.	
Weather Element			Locates normally at division airfield, and provides weather information to G2.

CONTINUED ON NEXT PAGE

FUNCTIONS OF SPECIALIZED STAFF ELEMENTS (CONTINUED)

Element	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
Fire Support Element	Coordinates immediate fire support requests and advises commander and staff on status and capabilities of fire support means.	Prepares fire support plans, coordinates fire support requirements with tactical command post and division air space management element, monitors location of all fire support means, and obtains target analysis and damage assessment for nuclear and chemical weapons.	
USAF Tactical Air Control Party	Coordinates immediate requests and use of close air support	Plans close air support operations and aerial reconnaissance operations.	Coordinates tactical airlift requirements.
Air Defense Artillery Section	Coordinates, when operating with the tactical command post, air defense in the forward area and airspace managemant as appropriate.	Operates with division aviation section to form division airspace management element	
Provost Marshal Section			The functions of discipline, law, and order, populace and resource control, prisoner of war collections, police intelligence operations, special investigative efforts, refugee control and displacement, and other associated police duties are conducted in conjunction with the MP company commander and coordinated with other staff elements from this location.
Communications-Electronic Officer Section		Exercises systems control of the signal battalion Element located with signal battalion headquarters Plans and coordinates divisional communications support.	
Aviation Section		Operates with air defense artillery section to form division airspace management element, and coordinates army aviation support.	
★ Engineer Section		Coordinates division enginaer oparations.	
Chemical Section		The division chemical officer and two assistants are normally located in the FSE and provide nuclear and chemical weapon target analysis and damage assessment information. The remainder of the section locates at the division artillery headquarters to perform the same functions	

COMMUNICATIONS

The division communicates by using an integrated system of secure and nonsecure equipment consisting of FM and AM voice, multichannel systems, messenger, radio teletypewriter (RATT), and radio wire integration (RWI). The system is used to transmit information, distribute intelligence, and control fire and maneuver. The divisional signal battalion, as well as all divisional units, has a variety of communications equipment. Divisional communication equipment, however, is extremely vulnerable to enemy countermeasures.

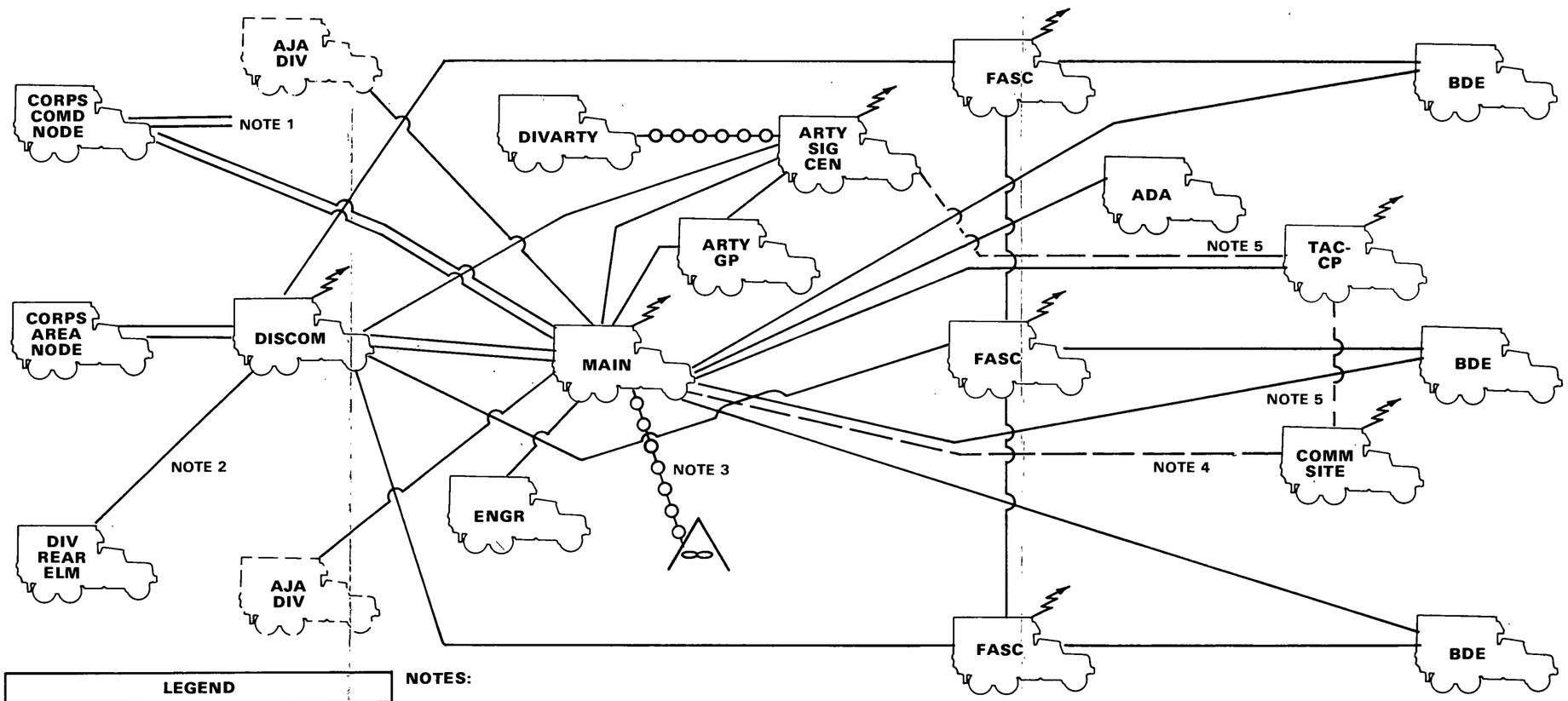
Tight communications discipline and command control alternatives must be routinely practiced. Command post electronic signatures must be reduced as previously described.

As in the case of electronic surveillance and target acquisition equipment, electronic counter-countermeasures must be used to protect divisional communications equipment from enemy interception, deception, and jamming.

Secure FM voice is the electronic means most often used by the division commander to command. Two secure FM nets, a command operations net, and an intelligence net are used from the tactical command post to brigade command posts and the armored cavalry squadron.

A multichannel network is installed and operated at brigade headquarters, brigade trains, the tactical command post, the prepositioned communications-electronics site, the main command post, division artillery headquarters, attached field artillery brigades, air defense artillery battalion, division airfield, and the engineer battalion. Corps installs a multichannel network to the division main command post and support area. The multichannel network is an excellent means for communication, but it takes time to set up and take down.

DIVISION MULTICHANNEL SYSTEMS DIAGRAM

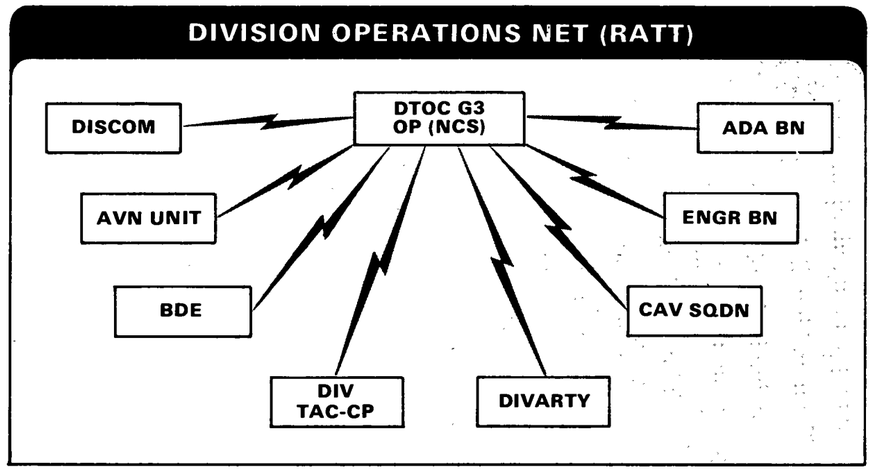


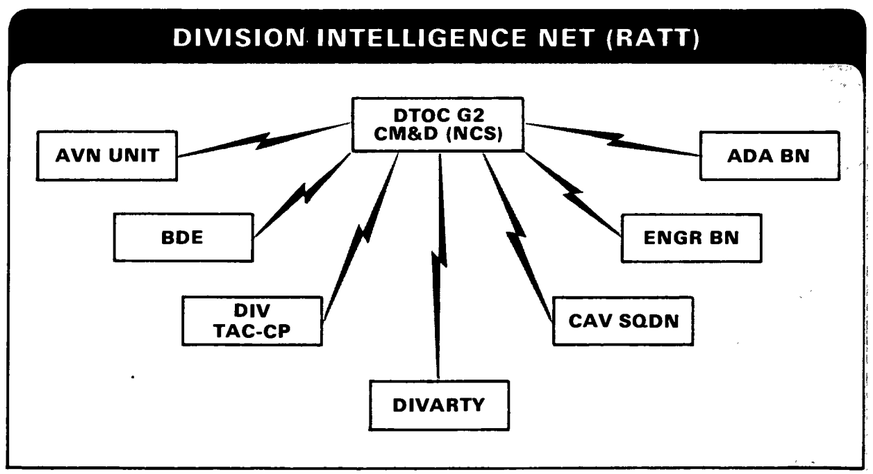
LEGEND	
12-CHANNEL SYSTEM	——
RWI STA	~~~
PCM CABLE SYSTEM	-o-o-o-

NOTES:

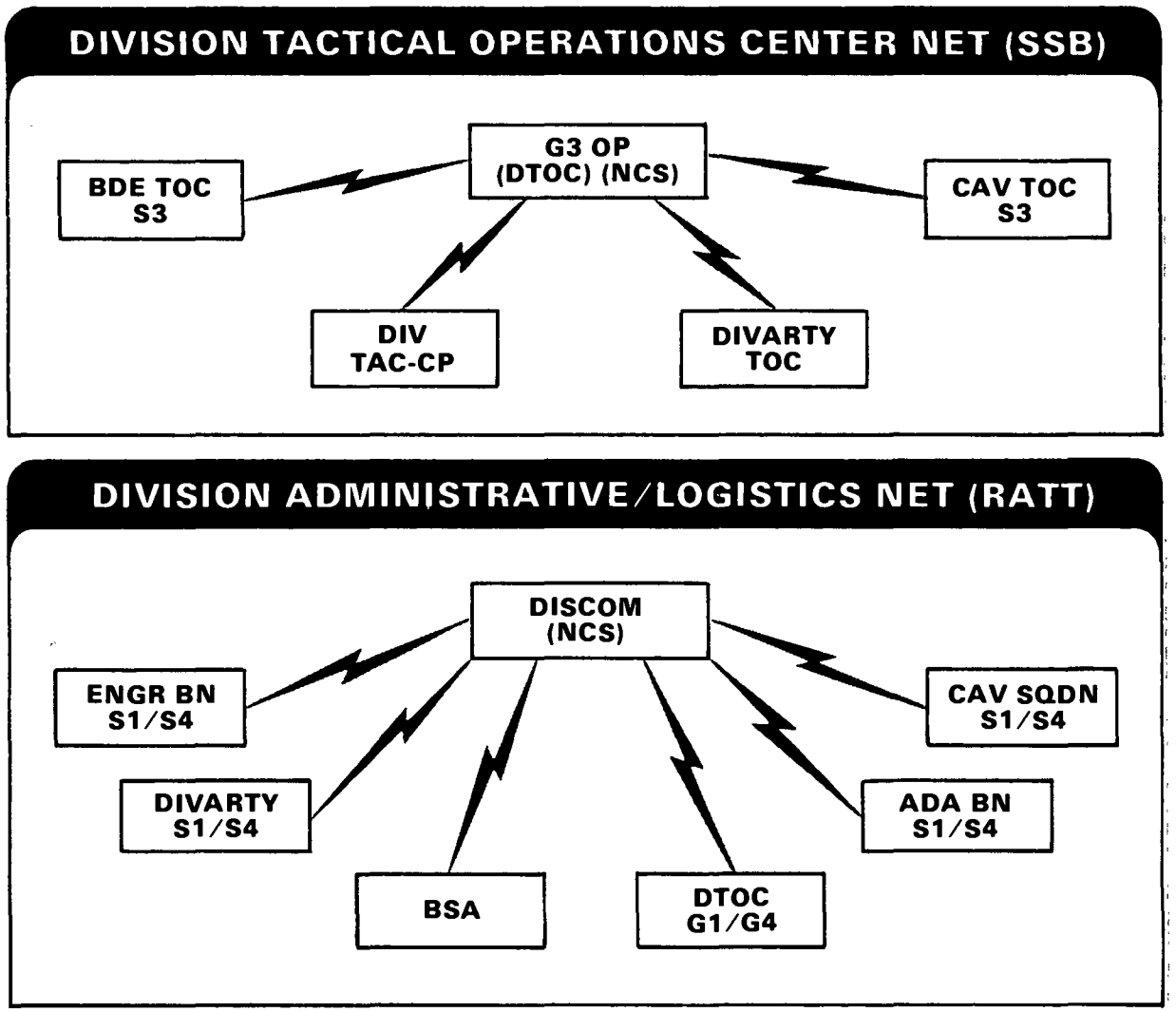
1. INSTALLED TO THE MAJOR SUBORDINATE COMMAND OF DIVISION DESIGNATED BY DIVISION COMMANDER.
2. INSTALLED ONLY IF DIVISION REAR ELEMENTS ARE WITHIN DIVISION'S AREA BUT NOT WITH DISCOM'S.
3. INSTALLED IF DISTANCE REQUIRES IT.
4. DOCTRINAL SYSTEM ALWAYS INSTALLED WHEN PRE-POSITIONED COMMUNICATIONS SITE IS IN PLACE.
5. CONDITIONAL SYSTEM WHICH IS SITUATION DEPENDENT.

Secure radio teletypewriter nets augment FM nets and the multichannel teletypewriter system. Radio teletypewriter nets are used for lengthy secure traffic.





AM voice radio, although *nonsecure,* is used to communicate over extended distances between the tactical command post, main command post, brigades, division artillery, and the armored cavalry squadron. Short, secure traffic can be transmitted on AM voice radio using operation codes and authentication devices.



Air and ground messengers are used as required throughout the division area. Ground messenger service is used for bulk traffic and low priority record traffic. **FM 11-50, Communication Within the Division, details divisional communications nets and electronic counter-countermeasures.**

COMMAND CONTROL IN COALITION WARFARE

It will frequently be necessary for US forces to work with the forces of our allies. This is a most important consideration in NATO Europe where US divisions and corps are deployed alongside like units of other members of the alliance. It is essential, therefore, that consideration be given to operating with these forces. *As a general rule, the lowest level of cross-attachment of allied forces is the brigade.* The division commander may, therefore, find himself with an allied brigade operating as part of his division. More frequently, it will be the case that divisions of allied Armies may be attached between corps. In this case, the division commander could find his division operating alongside an allied division in a US or an allied corps.

Whatever the level of cross-attachment, command control of maneuver forces, fires, and logistical support is the most important task the commander must consider. If time and circumstances permit, it is possible to draw up operating procedures that will permit forces of one nation to call for and adjust the indirect fires of fire support elements of the forces of another nation. Obviously this requires prior preparation and training in the use of mutually translated vocabularies. While forward air control systems vary somewhat from nation to nation, the standard language is English.

With regard to maneuver forces, it is possible to net radio equipment of some armies. However, generally at all levels, it is best to exchange liaison parties, each equipped with its own radio. This way positive communication can be assured, and difficulties resulting from language differences minimized. Good communications from liaison parties to their parent unit is an essential feature of coalition warfare.

In NATO Europe, logistics has long been considered a national responsibility. While this concept has recently been modified somewhat for some bulk commodities such as fuel, for the most part, it is still true that armies of the alliance are supplied by unique national supply systems. Since this is so, extraordinary measures may have to be taken to insure adequate communications with and in support of detached elements operating as part of an allied force. This is particularly the case with US divisional brigades that are not logistically self-sufficient. Brigade forces of our allies, on the other hand, tend to be more logistically self-sustaining and can be counted on to bring along a larger share of their own logistical support than would be the case with a US brigade. Once again, however, *the key to successful coalition operations is good communications between liaison parties and their parent units.*

APPENDIX A

References

FM	TITLE
CAPSTONE	
100-5	*Operations*
COMBAT	
*71-101	*Infantry, Airborne, and Air Assault Division Operations*
71-1	*The Tank and Mechanized Infantry Company Team*
71-2	*The Tank and Mechanized Battalion Task Force*
*71-3	*Armored and Mechanized Brigade Operations*
7-7	*The Mechanized Infantry Platoon and Squad*
*7-8	*The Infantry Platoon/Squad*
*7-10	*The Light Infantry Rifle Company*
7-20	*The Infantry Battalion (Inf, Airborne, Air Assault, Ranger)*
7-30	*The Infantry Brigades*
17-12	*Tank Gunnery*
17-47	*Air Cavalry Combat Brigade*
17-50	*Attack Helicopter Operations*
*100-33	*Electronic Warfare Operations*
100-26	*The Air-Ground Operations System*

*To be published

17-95	*Cavalry*
*100-29	*Operational Terms and Graphics*
101-5	*Staff Officer's Field Manual - Staff Organization and Procedures*

COMBAT SUPPORT

*5-100	*Engineer Combat Operations*
*3-87	*NBC Reconnaissance and Decontamination Operations*
6-20	*Fire Support in Combined Arms Operations*
*6-20-1	*Field Artillery Cannon Battalion*
*6-20-2	*Division Artillery, Field Artillery Brigade, Field Artillery Section (Corps)*
11-50	*Combat Communications Within the Division*
*11-92	*Corps Signal Communications*
24-1	*Combat Communications*
30-5	*Combat Intelligence*
44-1	*US Army Air Defense Artillery Employment*
44-3	*Air Defense Artillery Employment Chaparral/Vulcan*
44-23	*US Army Air Defense Employment, REDEYE*
44-90	*Air Defense Artillery Employment, HAWK*
90-1	*Employment of Army Aviation Units in a High Threat Environment*

SPECIAL OPERATIONS

90-2	*Tactical Deception*

*To be published

90-3	*Desert Operations*
*90-4	*Airmobile Operations*
*90-5	*Jungle Operations*
*90-6	*Mountain Operations*

*90-7	*Obstacles*
*90-10	*Military Operations on Urbanized Terrain*
*90-11	*Northern Operations*
*90-13	*River Crossing Operations*
*90-14	*Rear Area Combat Operations*

HOW TO SUPPORT

*63-1	*Combat Service Support Operations—Separate Brigade*
*63-2	*Combat Service Support Operations—Division*

*To be published

APPENDIX B

Example Orders

This appendix contains an annotated division order and two additional samples. These are meant to serve as guides. Division operations will frequently be initiated by oral orders, with written orders compiled later for the record. Considerable latitude is possible in the length and amount of detail contained in orders. If the order contains enough information to guide the division in the successful, coordinated execution of an operation, then it contains sufficient detail.

CONTENTS

	PAGE
EXAMPLE ANNOTATED DIVISION ATTACK ORDER	B-2
EXAMPLE DIVISION DEFENSE ORDER	B-4
EXAMPLE DIVISION ATTACK FRAGMENTARY ORDER	B-10

EXAMPLE ANNOTATED DIVISION ATTACK ORDER

1 Determined by G3, classified per Army Regulation 380-5. Classification is shown at top and bottom of each page of the order.

2 Each staff officer having a responsibility in the preparation of the operation order provides G3 with status of oral orders pertaining to his activity and, when appropriate, provides applicable remarks. If no oral orders were issued, this comment will be left out. If there were oral orders, such expression as "no change from oral orders" or "no change from oral orders except for paragraph 4" will be used, as appropriate.

3 a. G3 provides, except for message reference number (YZ51). See below.

b. Copy number: Must be shown.

c. Issuing unit: May be in code.

d. Place of issue: Show name of town or place, coordinate location in parentheses, and country. (May be in code.)

e. Date-time group: Time order is signed and time order is effective, unless otherwise indicated in the body of the order. Time must include time zone suffix.

f. Message reference number: A combination of letters and numbers from the CEOI.

4 Operation order number is provided by G3. Numbers run serially throughout the calendar year. The first number is the order number, the second, the calendar year.

5 Each staff officer providing information or entries for the operation order provides G3 with references, as appropriate. List any maps, charts, or other documents required to understand the order. Reference to a map will include the map series number (and country or geographic area, if required), sheet number (and name, if required), edition, and scale.

6 The time zone applicable to the operation. Times in other zones are converted to this time zone for this operation.

7 a. Organization for combat is developed by G3, based on the commander's decision and his concept, if given, and in coordination with staff officers having responsibilities in combat and combat support operations. Selection of specific units, except for maneuver battalions, is the prerogative of unit commanders, who provide unit designations to staff officer concerned. Staff officer concerned provides to G3 for inclusion in the operation order.

b. "Task Organization" indicates how the commander plans to allocate his combat power to accomplish his mission. The task organization may be shown in one of three places:

(1) Immediately preceding paragraph 1. This is normal at division level.

(2) In an annex. Used when a large number of units are involved.

(3) In paragraph 3 of the operation order. (This technique is most adaptable to brigade and lower levels.)

c. Names of commanders may be included. Non-organic units are fully identified.

d. Major subordinate control headquarters are listed in the following order:

(1) Combined arms commands (in numerical or alphabetical order).

(2) Infantry elements (in numerical order).

(3) Armored elements (in numerical order).

(4) Artillery fire support elements: Artillery units not listed under brigades are listed under Div Arty.

(5) Division troops.

(6) Support command.

e. Units listed under a brigade headquarters are attached unless otherwise indicated in parenthesis following the unit designation (examples: A/52d Engr (DS) or 1-7 FA (DS)). The order of listing units under the brigade follows the same sequence as in d above, except after artillery fire support elements other appropriate combat support elements are listed alphabetically by arm or service. Organic units of the DISCOM that are performing routine combat service support activities may be omitted.

f. Missions are not assigned in the task organization.

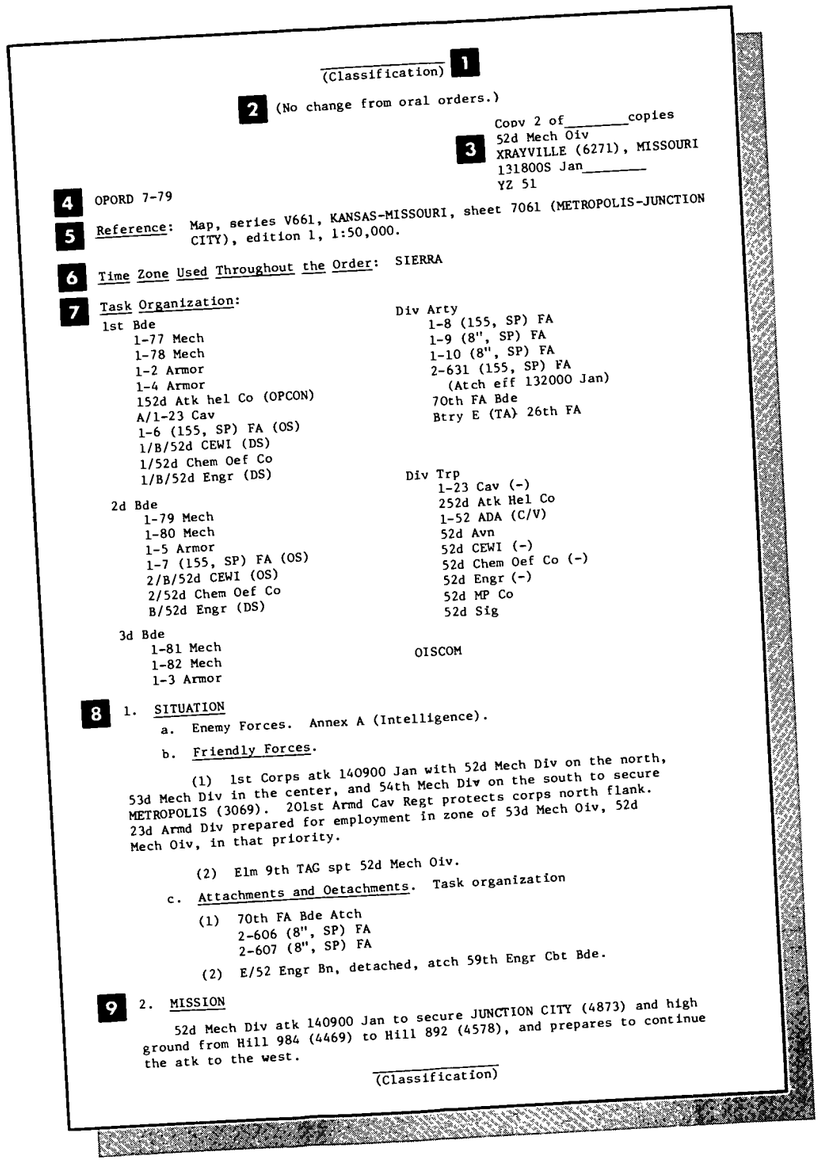
g. Attachments reflected in "Task Organization" need not be repeated in paragraph 1c or in paragraph 3. Effective time of attachment may be indicated in parenthesis after the unit.

8 Paragraph 1 will always contain three subparagraphs. An OPLAN may also contain paragraph d, Assumptions.

a. Subparagraph a. Provided by G2 and contains enemy information only. Instructions are not included. Reference may be made to an intelligence annex, operation overlay (if enemy information is shown), periodic intelligence report, or intelligence summary. Only enemy information vital to the entire command is included.

b. Subparagraph b. G3 extracts from the operation order of the next higher headquarters. Subparagraph b contains information concerning higher, adjacent, supporting, and reinforcing units, as applicable. Information should be limited to that which subordinate commanders need to know to accomplish their assigned mission.

c. Subparagraph c. G3 determines from the operation order of the next higher headquarters units attached to or detached from the division. He lists these units together with the effective times. If attachment/detachment is effective upon publication of orders, times are not shown.



(Classification) 1

2 (No change from oral orders.)

3 Copy 2 of _____ copies
52d Mech Div
XRAYVILLE (6271), MISSOURI
131800S Jan_____
YZ 51

4 OPORD 7-79

5 Reference: Map, series V661, KANSAS-MISSOURI, sheet 7061 (METROPOLIS-JUNCTION CITY), edition 1, 1:50,000.

6 Time Zone Used Throughout the Order: SIERRA

7 Task Organization:

1st Bde
1-77 Mech
1-78 Mech
1-2 Armor
1-4 Armor
152d Atk hel Co (OPCON)
A/1-23 Cav
1-6 (155, SP) FA (OS)
1/B/52d CEWI (DS)
1/52d Chem Oef Co
1/B/52d Engr (DS)

2d Bde
1-79 Mech
1-80 Mech
1-5 Armor
1-7 (155, SP) FA (OS)
2/B/52d CEWI (OS)
2/52d Chem Oef Co
B/52d Engr (DS)

3d Bde
1-81 Mech
1-82 Mech
1-3 Armor

Div Arty
1-8 (155, SP) FA
1-9 (8", SP) FA
1-10 (8", SP) FA
2-631 (155, SP) FA
(Atch eff 132000 Jan)
70th FA Bde
Btry E (TA) 26th FA

Div Trp
1-23 Cav (-)
252d Atk Hel Co
1-52 ADA (C/V)
52d Avn
52d CEWI (-)
52d Chem Oef Co (-)
52d Engr (-)
52d MP Co
52d Sig

OISCOM

8 1. SITUATION

a. Enemy Forces. Annex A (Intelligence).

b. Friendly Forces.

(1) 1st Corps atk 140900 Jan with 52d Mech Div on the north, 53d Mech Div in the center, and 54th Mech Div on the south to secure METROPOLIS (3069). 201st Armd Cav Regt protects corps north flank. 23d Armd Div prepared for employment in zone of 53d Mech Div, 52d Mech Div, in that priority.

(2) Elm 9th TAG spt 52d Mech Div.

c. Attachments and Oetachments. Task organization

(1) 70th FA Bde Atch
2-606 (8", SP) FA
2-607 (8", SP) FA

(2) E/52 Engr Bn, detached, atch 59th Engr Cbt Bde.

9 2. MISSION

52d Mech Div atk 140900 Jan to secure JUNCTION CITY (4873) and high ground from Hill 984 (4469) to Hill 892 (4578), and prepares to continue the atk to the west.

(Classification)

9 The mission is a clear, concise statement of the task to be accomplished by the command. It normally contains the "Who," "What," "When," and, as appropriate, "Why" and "Where" as taken from the corps order or as deduced by the commander. This paragraph has no subparagraphs. The mission is stated in full, even if portions are shown on the overlay.

10 a. Concept of Operation. This is a statement of the commander's tactical plan, to include the scheme of maneuver and plan of fire support. It should include the commander's visualization of the conduct of the operation and a clarification of purpose. It is stated in sufficient detail to insure appropriate action by subordinates. The scheme of maneuver covers employment of major maneuver units and is derived primarily from the commander's decision. The plan of fire support complements the scheme of maneuver. It includes the priority of fires. It may also include the employment of nuclear and chemical weapons. The concept of operation is stated in its entirety, even if portions are shown on the operation overlay.

(1) The concept of operation may be a single paragraph or may be divided into two subparagraphs, one which describes the scheme of maneuver entitled "Maneuver," and the other describing the plan of fire support entitled "Fires."

(2) When an operation involves two or more distinct phases, the concept of operation, or the maneuver portion thereof, may be prepared in subparagraphs describing each phase. Usually, each phase is given a designation (e.g., phase I, phase II).

(3) The concept of operation, if unusually lengthy, may appear as an annex to the order.

b. G3 determines tasks from the commander's decision and any explanation and amplification thereof. Separate lettered subparagraphs give the specific tasks to be accomplished by each element of the command charged with the execution of a tactical mission. Tasks shown graphically need not be repeated in the body of the order. Units are listed in the following order:

(1) Combined arms commands in numerical or alphabetical order.

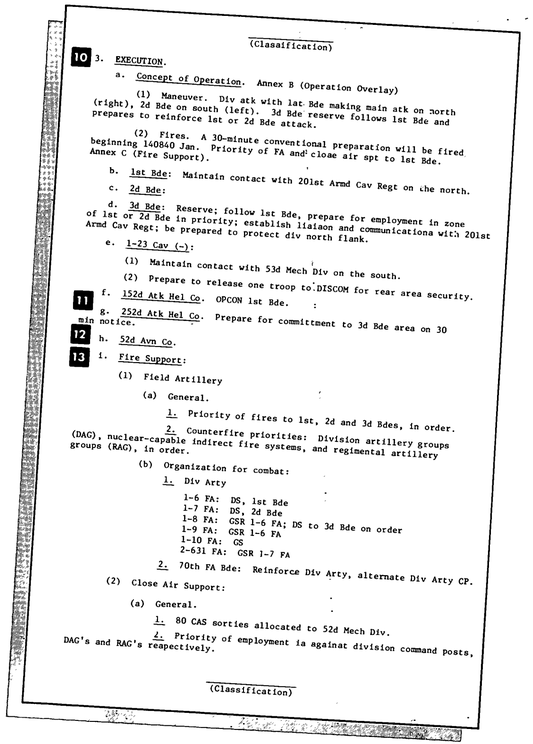
(2) Infantry elements.

(3) Armored elements.

(4) Artillery fire support elements.

(5) Combat support elements (in alphabetical order).

If these units are listed in "Task Organization," they need not be included in subparagraph c. The expression "remains attached" may be used if appropriate.



(Classification)

10 3. EXECUTION.

a. Concept of Operation. Annex B (Operation Overlay)

(1) Maneuver. Div atk with 1st Bde making main atk on north (right), 2d Bde on south (left). 3d Bde reserve follows 1st Bde and prepares to reinforce 1st or 2d Bde attack.

(2) Fires. A 30-minute conventional preparation will be fired beginning 140840 Jan. Priority of FA and cloae air spt to 1st Bde. Annex C (Fire Support).

b. 1st Bde: Maintain contact with 201st Armd Cav Regt on the north.

c. 2d Bde:

d. 3d Bde: Reserve; follow 1st Bde, prepare for employment in zone of 1st or 2d Bde in priority; establish liaison and communicationa with 201st Armd Cav Regt; be prepared to protect div north flank.

e. 1-23 Cav (-):

(1) Maintain contact with 53d Mech Div on the south.

(2) Prepare to release one troop to DISCOM for rear area security.

11 f. 152d Atk Hel Co. OPCON 1st Bde.

g. 252d Atk Hel Co. Prepare for committment to 3d Bde area on 30 min notice.

12 h. 52d Avn Co.

13 i. Fire Support:

(1) Field Artillery

(a) General.

1. Priority of fires to 1st, 2d and 3d Bdes, in order.

2. Counterfire priorities: Division artillery groups (DAG), nuclear-capable indirect fire systems, and regimental artillery groups (RAG), in order.

(b) Organization for combat:

1. Div Arty

1-6 FA: DS, 1st Bde
1-7 FA: DS, 2d Bde
1-8 FA: GSR 1-6 FA; DS to 3d Bde on order
1-9 FA: GSR 1-6 FA
1-10 FA: GS
2-631 FA: GSR 1-7 FA

2. 70th FA Bde: Reinforce Div Arty, alternate Div Arty CP.

(2) Close Air Support:

(a) General.

1. 80 CAS sorties allocated to 52d Mech Div.

2. Priority of employment ia againat division command posts, DAG's and RAG's reapectively.

(Classification)

(6) Division troops (tactical instructions only).

(7) Support command (tactical instructions only).

(8) Reserve, if composed of other than a major maneuver element (brigade or other unit listed above), such as a battalion or company.

11 Provided by G3, based on guidance received from the commander.

12 Recommended by G3, in coordination with division aviation officer.

13 Fire Support. The fire support subparagraph normally addresses all fire support means available to the division. Sub-subparagraphs are: the field artillery organization for combat and assigned tactical missions; information about close air support; naval gunfire; nuclear and chemical support, if available; and fire support coordinating instructions. The last sub-subparagraph refers to the fire support annex, if appropriate. The organic and attached field artillery units are listed in numerical sequence. As a minimum, the fire support subparagraph will include the field artillery organization for combat and assigned tactical missions.

14 Recommended by G3, in coordination with division ADA battalion commander.

15 Recommended by G3, in coordination with division G2 and CEWI battalion commander.

16 Recommended by G3, in coordination with division chemical officer.

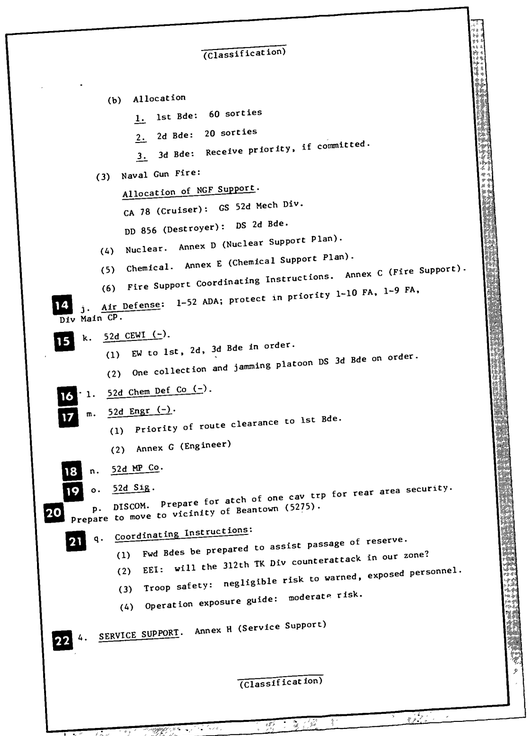
17 Recommended by G3, in coordination with division engineer.

18 Recommended by G3, in coordination with division G1 and provost marshall.

19 Recommended by G3, in coordination with division signal officer.

20 Provided by G4 in coordination with G1, G2, G3, G5, and support command commander.

21 Coordinating instructions are included as the last subparagraph in paragraph 3. This subparagraph contains instructions applicable to two or more elements of the command. Signal instructions are not included in this subparagraph. EEI, when included, are provided by the G2. The operation exposure guide is included in this subparagraph to express the commander's control of exposure of personnel to radiation during the mission.



(Classification)

(b) Allocation

1. 1st Bde: 60 sorties

2. 2d Bde: 20 sorties

3. 3d Bde: Receive priority, if committed.

(3) Naval Gun Fire:

Allocation of NGF Support.

CA 78 (Cruiser): GS 52d Mech Div.

DD 856 (Destroyer): DS 2d Bde.

(4) Nuclear. Annex D (Nuclear Support Plan).

(5) Chemical. Annex E (Chemical Support Plan).

(6) Fire Support Coordinating Instructions. Annex C (Fire Support).

14 j. Air Defense: 1-52 ADA; protect in priority 1-10 FA, 1-9 FA, Div Main CP.

15 k. 52d CEWI (-).

(1) EW to 1st, 2d, 3d Bde in order.

(2) One collection and jamming platoon DS 3d Bde on order.

16 l. 52d Chem Def Co (-).

17 m. 52d Engr (-).

(1) Priority of route clearance to 1st Bde.

(2) Annex G (Engineer)

18 n. 52d MP Co.

19 o. 52d Sig.

20 p. DISCOM. Prepare for atch of one cav trp for rear area security. Prepare to move to vicinity of Beantown (5275).

21 q. Coordinating Instructions:

(1) Fwd Bdes be prepared to assist passage of reserve.

(2) EEI: will the 312th TK Div counterattack in our zone?

(3) Troop safety: negligible risk to warned, exposed personnel.

(4) Operation exposure guide: moderate risk.

22 4. SERVICE SUPPORT. Annex H (Service Support)

(Classification)

22 Provided by G4, in coordination with G1, G5, support command commander, and appropriate special staff officers. If these instructions are voluminous, they may be included in an annex and reference made to the annex in paragraph 4.

23 This paragraph contains command and signal instructions. As a minimum, reference will be made to the communications-electronics annex (if used), current index to the CEOI, and the location of the division command post and axis of command post displacement (unless shown graphically).

24 Directs the recipient of the order to acknowledge receipt. Acknowledgment may be made in the clear, using the message reference number contained in the heading.

25 a. The commander or his designated representative signs the original copy of the operation order. If this signature cannot be reproduced, the G3 authenticates subsequent copies. Annexes, appendixes, tabs, and inclosures issued with the order do not require signature or authentication. Those issued separately do require signature (or authentication) in the same manner as the order. Authentication is performed by the appropriate coordinating staff officer.

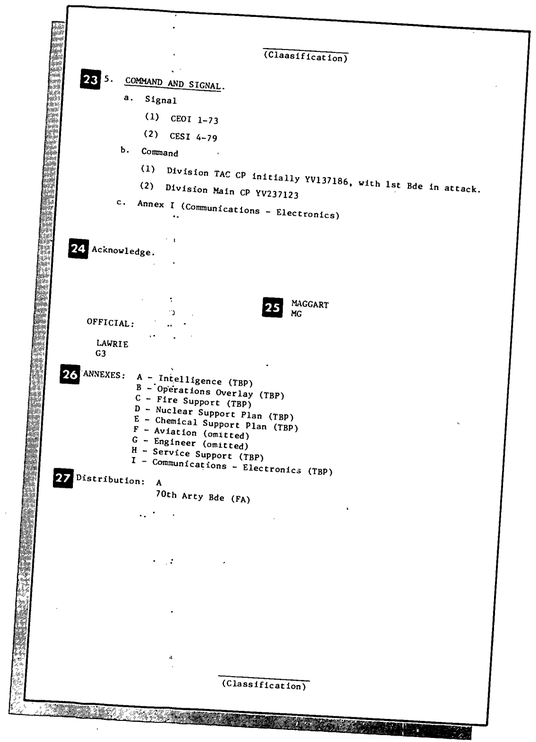
b. Examples of signature blocks for copy 1 of the order, and of annexes, appendixes, tabs, and inclosures if issued separately:

(2) FOR THE COMMANDER:
HIXON
Chief of Staff

(1) MAGGART
MG

26 Annexes are lettered alphabetically and are listed in the order in which they appear in the operation order. G3 designates the letter to be associated with a given annex. Annexes are prepared by the appropriate officer having staff responsibility for the activity, arm, or service covered by the annex.

27 A distribution formula is included in standing operating procedures. G3 establishes distribution in coordination with other coordinating and special staff officers.



(Classification)

23 5. COMMAND AND SIGNAL.

a. Signal

(1) CEOI 1-73

(2) CESI 4-79

b. Command

(1) Division TAC CP initially YV137186, with 1st Bde in attack.

(2) Division Main CP YV237123

c. Annex I (Communications - Electronics)

24 Acknowledge.

25 MAGGART
MG

OFFICIAL:

LAWRIE
G3

26 ANNEXES: A - Intelligence (TBP)
B - Operations Overlay (TBP)
C - Fire Support (TBP)
D - Nuclear Support Plan (TBP)
E - Chemical Support Plan (TBP)
F - Aviation (omitted)
G - Engineer (omitted)
H - Service Support (TBP)
I - Communications - Electronics (TBP)

27 Distribution: A
70th Arty Bde (FA)

(Classification)

EXAMPLE DIVISION DEFENSE ORDER

(Classification)

Copy no ___ of ___ copies
23d Armd Div
QUAGADOUGOU, Upper Velar (YV6996)
060100 MAR 79
EGS4

OPORD 7-79

Reference: Map, series M431, Africa, Sheet 4631 I (MALI-NIGER), edition 2-AMS, 1:50,000

Time Zones Used Throughout the Order: ALFA

Task Organization:

1st Bde

1-31 Mech
1-32 Mech
1-16 Armor
1-17 Armor
1-9 (155, SP) FA (DS)
A/1-21 ADA (DS)
1/B/23d CEWI (DS)
A/23d Engr (DS)

2d Bde

1-33 Mech
1-34 Mech
1-18 Armor
1-10 (155, SP) FA (DS)
B/1-21 ADA (DS)
2/B/23d CEWI (DS)
C/23d Engr (DS)

3d Bde

1-35 Mech
1-18 Armor
1-19 Armor
1-11 (155, SP) FA (DS)
3/B/23d CEWI (DS)
B/23d Engr (DS)

Div Arty

1-15 FA (8", SP)

Div Trp

1-21 ADA (-) (C/V)
23d Avn (Bn (-)
23d CEWI Bn (-)
23d Chem Def Co
23d Eng Bn (-)
567 Engr Cbt Bn (Corps)
23d MP Co
23d Sig Bn

DISCOM

(Classification)

(Classification)

1. SITUATION

a. Enemy Forces. 3d CAA has been resupplied and reinforced. Attack is anticipated within 48 hours. Annex A (intelligence).

b. Friendly Forces.

(1) 10th Corps defends in sector from YV4060 to YV3804 with 2 Divs abreast.

(2) 52d Div conducts an active defense from YV4060 to YV4027.

(3) 9th Corps defends in sector to south.

(4) 201st ACR (+) covers deployment of 10th Corps.

(5) 14TAF supports Div.

c. Attachments & Detachments.

(1) Attachments:

(a) 2-201 ACR attached on order vic line LYNDA.

(b) 27th FA Bde attached on order

3-327 (155, SP) FA

2-329 (155, SP) FA

1-421 (8", SP) FA

(2) Detachments: Fol units attached to 201st ACR effective 060800. Revert to div on order vic line LYNDA.

1-28 Cav

1-20 Arm

A&B Atk Hel Co's, 23dAv Bn

2. MISSION

23d Armored Division conducts an active defense in sector from 446332 to YV437039 by 080600Mar to deny SOKOTO to the enemy.

(Classification)

(Classification)

3. EXECUTION

a. Concept of Operation.

(1) Maneuver. Annex B (Operation Overlay). 23d Div prepares and conducts an active defense with three bdes: 1st Bde in north, 3d Bde in center, 2d Bde in South. Div assumes control of covering forces in sector vic line Lynda; each bde prepares to assume control of covering forces operating forward of bde battle areas, vic line Tammy. Reserve initially from least committed Bde, 1-20 Arm becomes res once returned from CFA.

(2) Fires. Priority of FA and CAS to 1st Bde. Annex C. (Fire Support)

b. 1st Bde: Prepare position C-7 for eventual occupation by 1-20 Arm. Prepare to receive 1-28 Cav (-).

c. 2d Bde: Position tank heavy bn TF on battle position B-16. Do not commit w/o Div Cdr authorization.

d. 3d Bde: Position tank heavy bn TF on battle position A-10. Do not commit w/o Div Cdr authorization.

e. 1-28 Cav: On order screen between 1st, 3d and 2d Bde Battle Areas.

f. 2-201 ACR: Attached to 3d Bde upon arrival in MBA.

g. 23d Av Bn.

h. Fire Support.

(1) FA organization for combat.

(a) Div Arty

1-9 FA: DS 1st Bde

1-10 FA: DS 2d Bde

1-11 FA: DS 3d Bde

1-15 FA: GSR 1-9 FA

3-327 FA: reinf 1-11 FA upon atchmt

(Classification)

(Claasification)

2-329 FA: reinf 1-9 FA upon atchmt

1-421 FA: GSR 1-10 FA

(b) HQ 27th FA BDE: Reinf Div Arty; Alternate Div Arty CP. Plan SEAD.

(2) Close Air Support.

(3) Nuclear Annex D (Nuclear Support Plan).

(4) Chemical. Annex E (Chemical Support Plan).

(5) Fire Support Coordinating Instructions. Annex C (Fire Support).

i. Air Defenae: Priority CFA, then to 1st Bde, Div CP.

j. 23d CEWI Bn: Annex H (Electronic Warfare)

k. 23d Chem Def Co: Priority to 1at Bde.

l. 23d Engr Bn: Priority to 1st Bde.Annex F (Obatacles); Annex G (Engineer).

m. 23d MP Co.

n. 23d Sig Bn.

o. Reserve: 1-20 Arm, on release from 201at ACR, occupy position C-7. CATK planning to 1st Bde, 3d Bde, 2d Bde, in that priority.

p. Coordinating Instructions:

(1) Restriction on commitment of 2d & 3d Bde Task Forces on A-10 & B-16 is lifted once 1-20 Armor is in position on C-7.

(2) EEI: Location of main enemy effort.

(3) 1st & 3d Bdes make physical contact with 52d Div and 9 Corpa, Exchange LNO.

4. SERVICE SUPPORT. Annex I (Service Support).

5. COMMAND AND SIGNAL

a. Signal

(1) CEOI 1-73

(2) CESI 4-79

(Classification)

(Classification)

b. Command. Div Main CP YV137186

Div Tac CP YV237213

Alternate CP is Div Arty CP

Acknowledge

GUTHRIE
MG

OFFICIAL

/s/LAWRIE
LAWRIE
G3

Annexes: A - Intelligence (omitted)
B - Operation Overlay (TBP)
C - Fire Support (TBP)
D - Nuclear Support Plan (TBP)
E - Chemical Support Plan (TBP)
F - Obstacles (omitted)
G - Engineer (omitted)
H - Electronic Warfare (omitted)
I - Service Support (omitted)

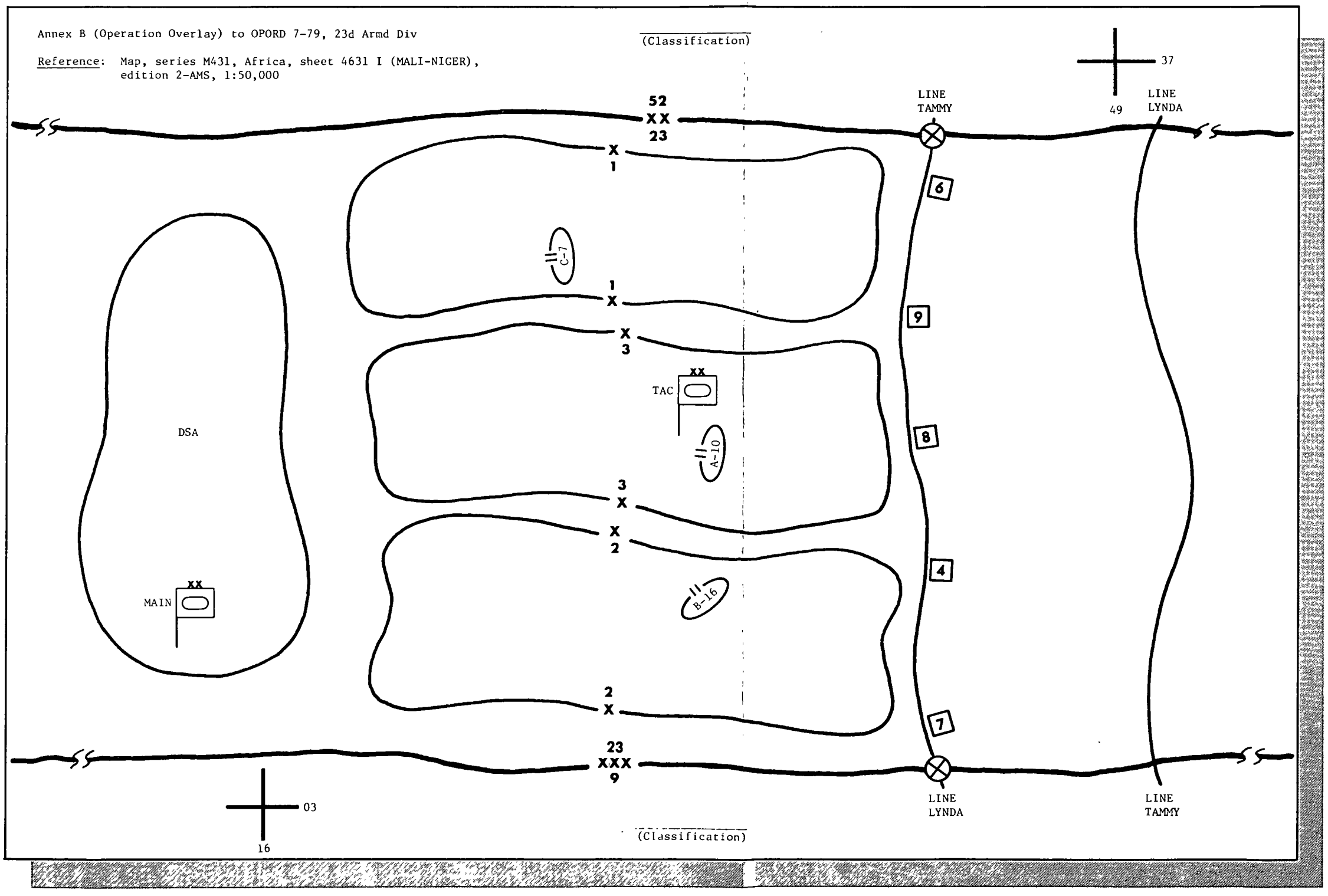
Distribution: A
27th FA Bde

(Classification)

Annex B (Operation Overlay) to OPORD 7-79, 23d Armd Div

(Classification)

Reference: Map, series M431, Africa, sheet 4631 I (MALI-NIGER), edition 2-AMS, 1:50,000



(Classification)

EXAMPLE DIVISION ATTACK FRAGMENTARY ORDER

(CLASSIFICATION)

Copy NO__ of ___ copies
148 Inf Div (M)
PEKROW (YK 315471), Poland
27 0100 MAR 76
RPG 5

FRAGO 1 to Opord 4-76

Reference: OPORD 4-76 LQ73
Map series RM65, Poland, Sheet 1, edition 4G-IS, 1:50,000

Time Zone Used Throughout the Order: ALFA

Task Organization: No change except covering force units revert to parent unit control effective 27 0500 MAR 76

1. SITUATION

a. Enemy Forces. Enemy has not been able to penetrate 148 DIV covering forces; main enemy thrust is identified To south against 14th Corps. Current INTSUM.

b. Friendly Forces

1) 19 Corps attacks to Southeast against Flank of enemy main thrust.

2) 136 th DIV makes corps supporting atk.
3) 14 th Corps continues to defend.
4) 19 th ARTY Bde (FA) Reinf 148 th DIV ARTY.

2. MISSION

148th DIV attacks 270600 MAR 76 to seize OBJ MOOSE (YK 7853) prepares to continue atk to Southeast.

3. EXECUTION

a. Concept of Operation
(1) Maneuver. Division attacks with 1st and 3d Bdes along axes ANN and Bert to seize OBJS 1 and 2. 2d Bde follows 1st Bde in North prepared

(CLASSIFICATION)

(CLASSIFICATION)

to bypass 1st Bde or reinforce 3d Bde to continue the attack.

(2) Fires. Priority of air and ARTY to 1st Bde, to 2d Bde when committed. 15 min prep begins 27 0545.

b. Coordinating Instructions.

4. SERVICE SUPPORT. Annex B (Service Support).

5. COMMAND AND SIGNAL
CEOI 3-74

Acknowledge.

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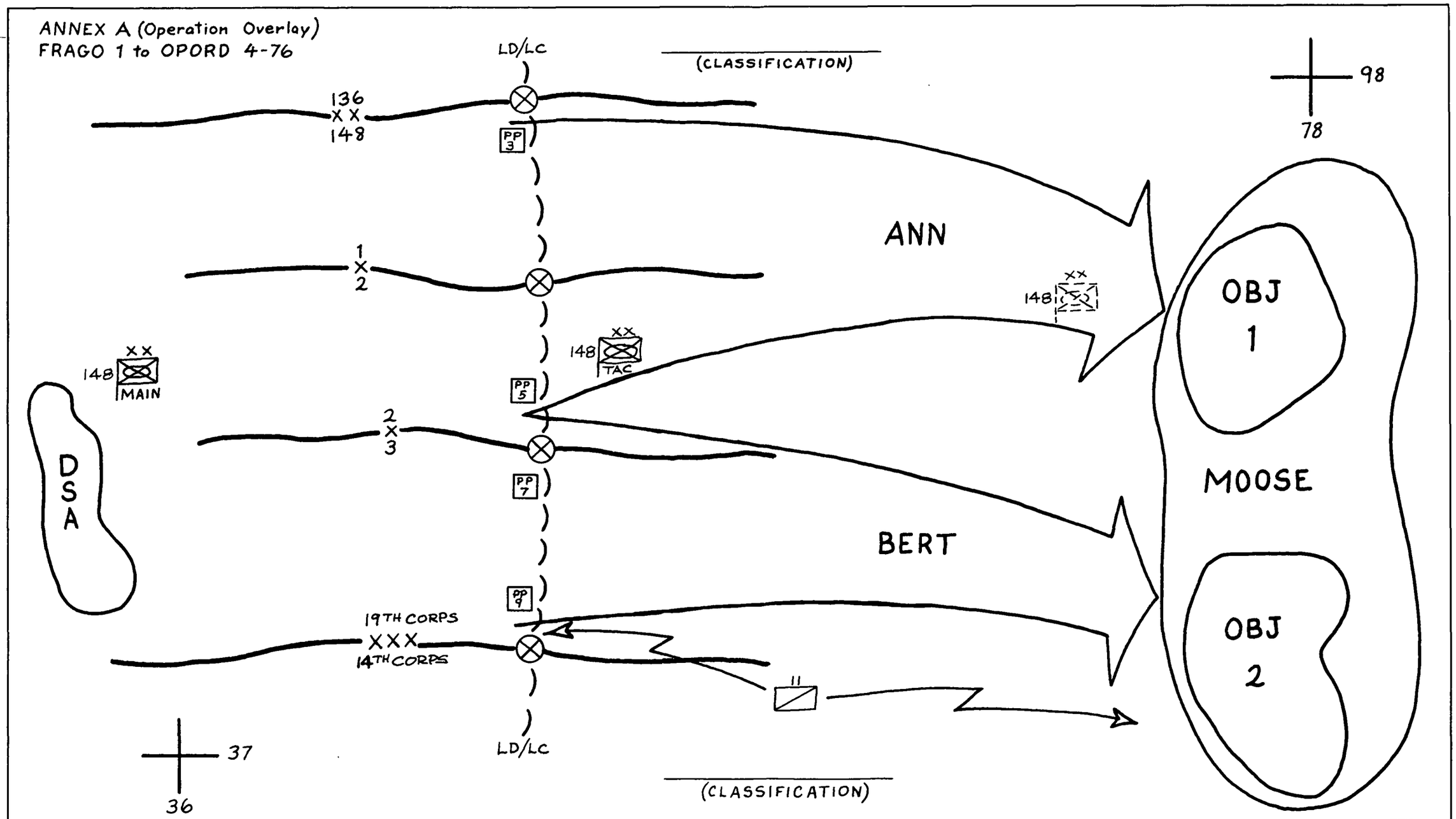
Annexes: A - Operation Overlay
B - Service Support (to be issued)

(CLASSIFICATION)


ANNEX A (Operation Overlay)
FRAGO 1 to OPORD 4-76
LD/LC
(CLASSIFICATION)
98
78
136
XX
148
PP 3
1
X
2
ANN
148 XX
OBJ
1
148 XX
MAIN
148 XX
TAC
PP 5
2
X
3
DSA
PP 7
BERT
PP 9
19TH CORPS
XXX
14TH CORPS
11
MOOSE
OBJ
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LD/LC
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(CLASSIFICATION)

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FM 71-100

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By Order of the Secretary of the Army:

BERNARD W. ROGERS
General, United States Army
Chief of Staff

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The Adjutant General

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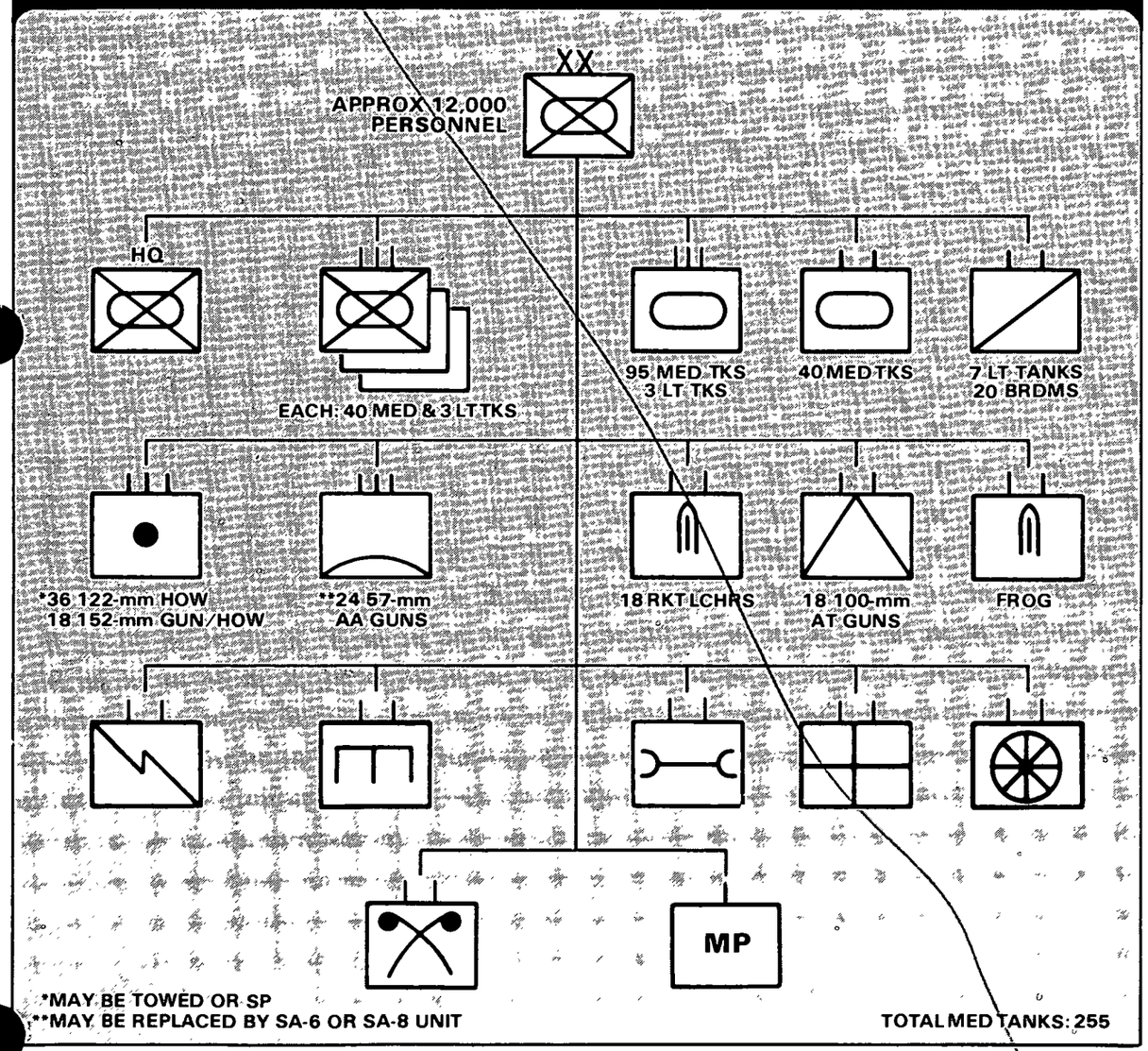
30 March 1979

THREAT ORGANIZATION FOR COMBAT

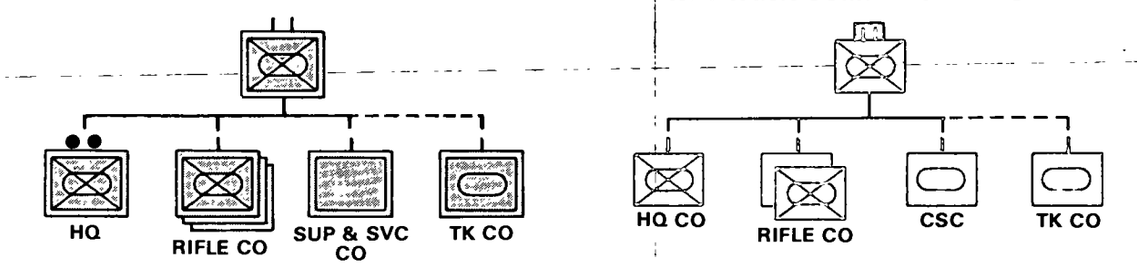
MOTORIZED RIFLE UNITS

Motorized rifle troops are the basic and most versatile arm of Threat forces. They are used to destroy enemy forces. Motorized rifle units are seldom employed without strong artillery, tank, and engineer support.

THREAT MOTORIZED RIFLE DIVISION

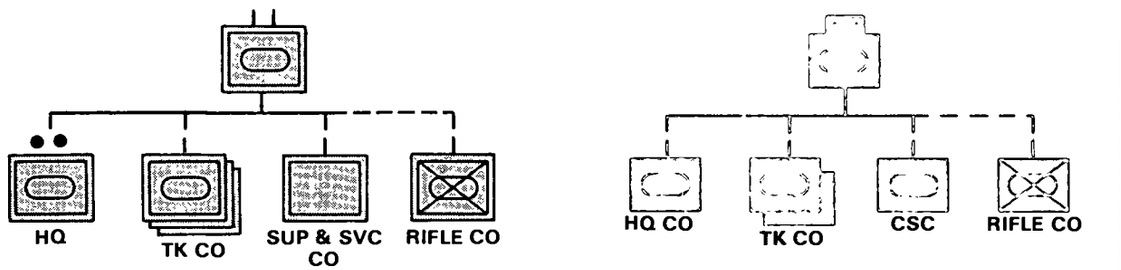


STRENGTH COMPARISON OF THREAT MOTORIZED RIFLE BATTALION AND US MECH INFANTRY—HEAVY TASK FORCE



THREAT		US
13 TANKS (THREAT TANK COMPANY, TANK BN, MRR HAS 4 TANKS PER PLATOON) —MAIN GUN —7.62-mm AND 12.7-mm MACHINEGUNS	ANTIARMOR	17 TANKS —MAIN GUN —7.62-mm COAX MACHINEGUN —CAL .50 MACHINEGUN
32 SAGGER LAUNCHERS (EACH BMP CARRIES 4 SAGGERS) THERE ARE ALSO TWO MANPACK LAUNCHERS W/2 SAGGERS EACH.		12 HAWs (4 HAWs REMOVED FROM THE BATTALION W/THE DETACHED MECH INFANTRY COMPANY)
32 BMPs (W/SAGGER) —73-mm SMOOTHBORE GUN —7.62-mm MACHINEGUN		24 APCs (IN 2 RIFLE COMPANIES) —CAL .50 MACHINEGUN
2 SPG-9s (BATTALION MAIN RECOILLESS GUN)		22 MAWs (IN RIFLE AND SCOUT PLATOONS)
27 RPG-7s		LAWs (ISSUED AS A ROUND OF AMMUNITION)
9 SA-7 GRAIL LCHRS		
6 120-mm	MORTARS	6 81-mm 4 42-inch
356 AKMS (7.62-mm) 64 PKMS (7.62-mm) 13 (TANK-MOUNTED)	INFANTRY SMALL ARMS RIFLES LIGHT MACHINEGUN HEAVY MACHINEGUN	547 M16s (5.56-mm) 30 M60s (7.62-mm) 12 CAL .50 9 CANNON (20-mm) 76 GRENADE LCHRS (40-mm)

STRENGTH COMPARISON OF THREAT TANK BATTALION AND US TANK—HEAVY TASK FORCE

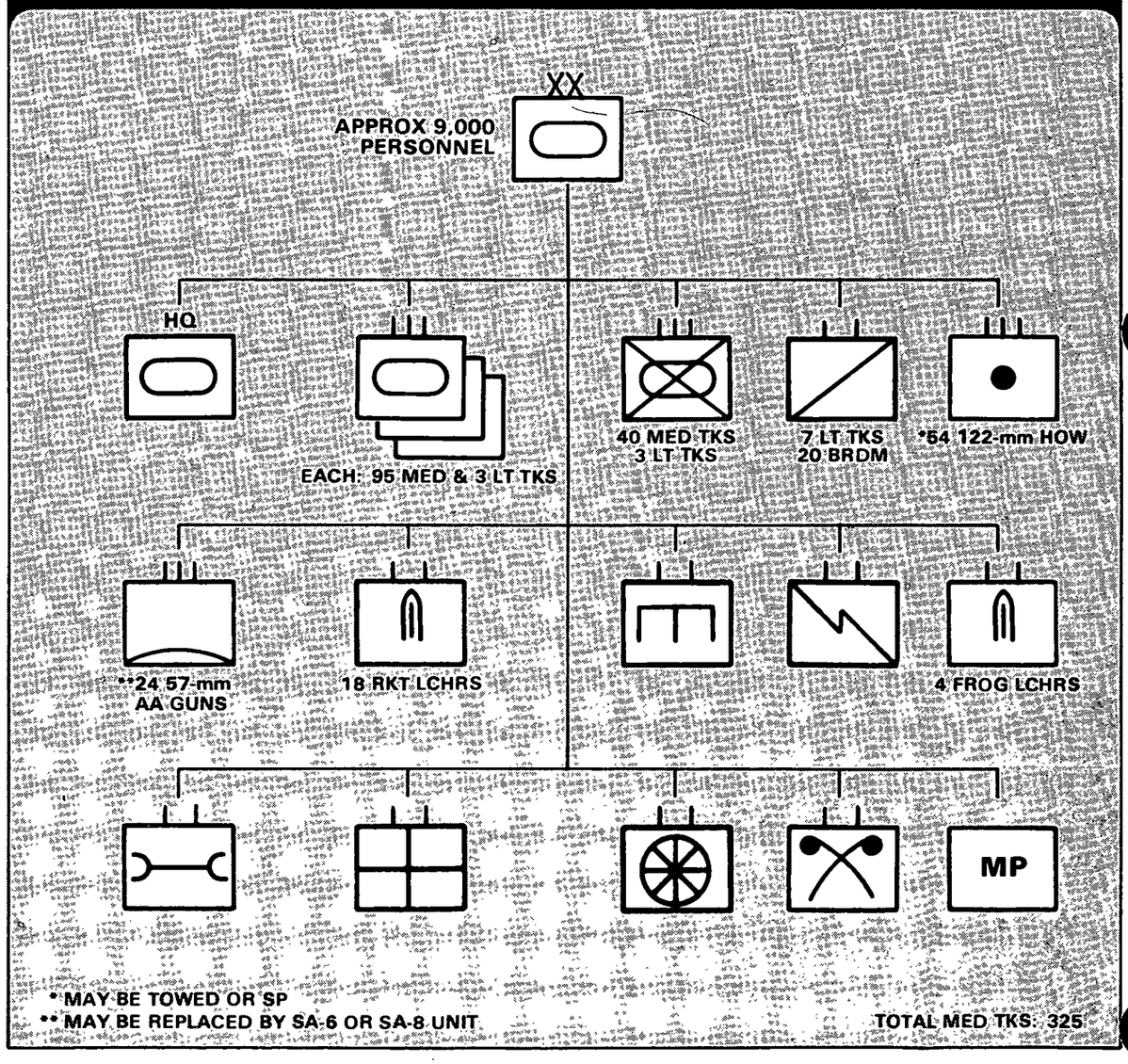


THREAT	WEAPON SYSTEMS	US
31 TANKS (THREAT TANK COMPANY, TANK BATTALION, TANK REGIMENT HAS 3 TANKS PER PLATOON) —MAIN GUN —7.62-mm AND 12.7-mm MACHINEGUNS	ANTIARMOR	37 TANKS —MAIN GUN —7.62-mm COAX MACHINEGUN —CAL .50 MACHINEGUN
10 SAGGER LAUNCHERS (EACH BMP CARRIES 4 SAGGERS)		6 HAWs (4 HAWs ATTACHED TO MECH INFANTRY COMPANY FROM PARENT BATTALION) 12 MAWs
10 BMPs (W/SAGGERS) —73-mm SMOOTHBORE GUN —7.62-mm MACHINEGUN		13 APCs (ARMORED PERSONNEL CARRIER) CAL .50 MACHINEGUN
9 RPG-7s		LAWs (ISSUED AS A ROUND OF AMMUNITION)
9 SA-7 GRAIL LCHRS		
NONE	MORTARS	3 81-mm 4 4.2-inch
212 AKMS (7.62-mm) 20 PKMS (7.62-mm) 31 (TANK-MOUNTED)	INFANTRY SMALL ARMS RIFLES LIGHT MACHINEGUN HEAVY MACHINEGUN	421 MIGs (5.56-mm) 62 M60s (7.62-mm) 55 CAL .50 42 GRENADE LCHRS (40-mm) 88 .45 CAL MACHINEGUNS

TANK UNITS

Tanks may be employed at all echelons. *Exploitation is the principal role of Threat tanks.* In the offense, tanks are often employed in mass to seize deep objectives. Tank units attempt to seize such objectives before the enemy is able to reorganize for the defense or counterattack. In the defense, most tanks are held in reserve to be utilized in counterattacks to destroy enemy penetrations and to resume the offense.

THREAT TANK DIVISION



Templating is a useful tool to assist the commander in assessing enemy intentions. The commander may identify, for example, a road junction through which the enemy must move to reinforce. If traffic of a specified type passing through the road junction reaches a specified level within a specified period, the G2 is to inform the commander immediately. This is called **event templating.**

Doctrinal templates can be prepared based on enemy doctrine—how he deploys his forces for different operations. Observed events can be compared to doctrinal templates to provide indications of what the enemy intends to do. Doctrinal templates can also be used to estimate the size enemy force an avenue of approach can support.

In considering possible enemy courses of action, the commander must guard against the unwarranted belief that he has discovered the enemy's intentions, and against ignoring other courses of action open to the enemy. Templating is further described in Chapter 7, *Command Control of Combat Operations.*

Several organizations are used to gather combat information and provide intelligence to the commander.

Intelligence from higher commands, national, strategic, and other services is obtained from corps. The corps can also provide aerial imagery reconnaissance and signal intelligence to support divisional collection efforts.

The most immediate combat information comes from tank and mechanized battalions. This information may not be extensive, but might be the best for it is first hand. Requests for field artillery fires are also a good source of battlefield information. **The armored cavalry squadron is used to conduct reconnaissance operations as described in FM 17-95, Cavalry.**

The **divisional combat electronic warfare and intelligence battalion** is organized to analyze and produce intelligence, interrogate prisoners of war, and interpret imagery. It also has a counterintelligence section which performs operations security functions and surveys. Operations security includes operations to neutralize, defeat, or confuse enemy intelligence. The G2 and G3 work together to provide for operations security. Operations to neutralize enemy intelligence are the staff responsibility of the G2. The G2 also assesses friendly vulnerabilities and the G3 plans to deceive, defeat, or confuse the enemy and enhance friendly survivability.

The combat electronic warfare and intelligence battalion also provides:

- **Electronic warfare support measures** (EWSM): EWSM is used to search, intercept, identify, and locate enemy electronic emitters.
- **Electronic countermeasures** (ECM): ECM is used to suppress enemy communications, electronic surveillance, and target acquisition devices (jamming). Electronic countermeasures can also be used to deceive the enemy so that he reacts to the division's best advantage. *This is called imitative electronic deception.*

These measures and electronic counter-countermeasures (ECCM) taken to protect friendly emitters are described as electronic warfare operations. Although EWSM is used to attack enemy emitters, they are described together here because of their interrelationship.

The division commander establishes target priorities for electronic warfare based on the threat to the division or on vulnerabilities of enemy emitters. Enemy regimental command control nets are particularly important and should be suppressed or exploited.

The intelligence value derived from an enemy emitter versus the tactical value of denying the enemy use of the emitter must be carefully considered. The commander may reserve to himself the decision to attack or suppress electronic emitters which have intelligence value. Other emitters which have no intelligence value may be attacked by fire or suppressed by jamming routinely. The G2

should determine the risks and benefits of employing electronic countermeasures against certain targets, and so inform the commander.

Jamming must complement the operation. The G3 is responsible for integrating electronic countermeasures with maneuver. The communications-electronic officer (who is the signal battalion commander), G3, and G2 work together to avoid or minimize interference with friendly emitters.

Jamming can only be effective for short periods of time, for the enemy will take evasive action or use countermeasures. So, the best way to suppress an enemy emitter interfering with friendly operations is to destroy it by fire.

It is to be expected that the enemy will use electronic means to locate friendly emitters. ECCM must be used to protect divisional electronic surveillance and target acquisition equipment from enemy interception, deception, jamming, and destruction.

If an enemy system is located and is beyond the division's capability to monitor or suppress, assistance can be obtained from corps electronic warfare units.

ORGANIZATION FOR COMBAT

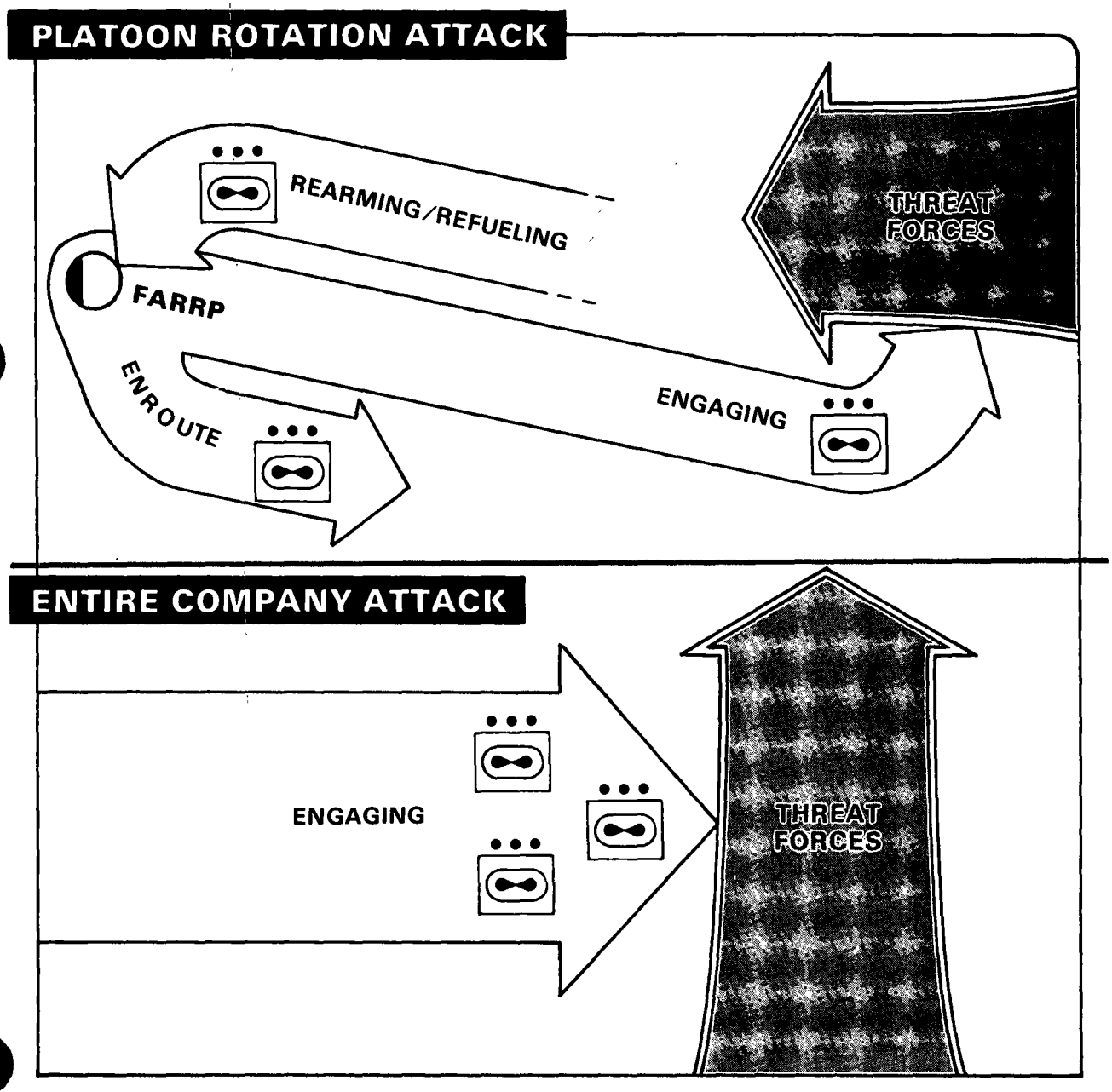
Divisions are organized to destroy the enemy. To do this, the division has a variety of weapon systems—tanks, antitank weapons, riflemen, field and air defense artillery, and sometimes, attack helicopters. Close air support is provided by the US Air Force.

QUANTITY OF DIVISION WEAPON SYSTEMS

WEAPON SYSTEMS	ARMOR	MECH INF
M60A1	324	270
M551	27	27
M113	376	415
M113 TOW	154	168
DRAGON	200	240
M109A1	54	54
M110	12	12
CHAPARRAL	24	24
VULCAN	24	24
REDEYE	72 TEAMS	72 TEAMS
CEV	8	8

however, often placed under operational control of brigades. When it is necessary to attach an attack helicopter company to a brigade, combat service support must be provided for.

Attack helicopter companies should never be parcelled out by platoon. An attack helicopter company normally fights by applying continuous pressure, with one platoon engaging, one platoon rearming and refueling, and one platoon enroute to or from a forward area rearm and refuel point (FARRP). A second, although less frequently used method of employment is one in which an entire company might be employed in the same area, at the same time, against the same target. **How attack helicopter units fight is described in FM 17-50, Attack Helicopter Operations.**

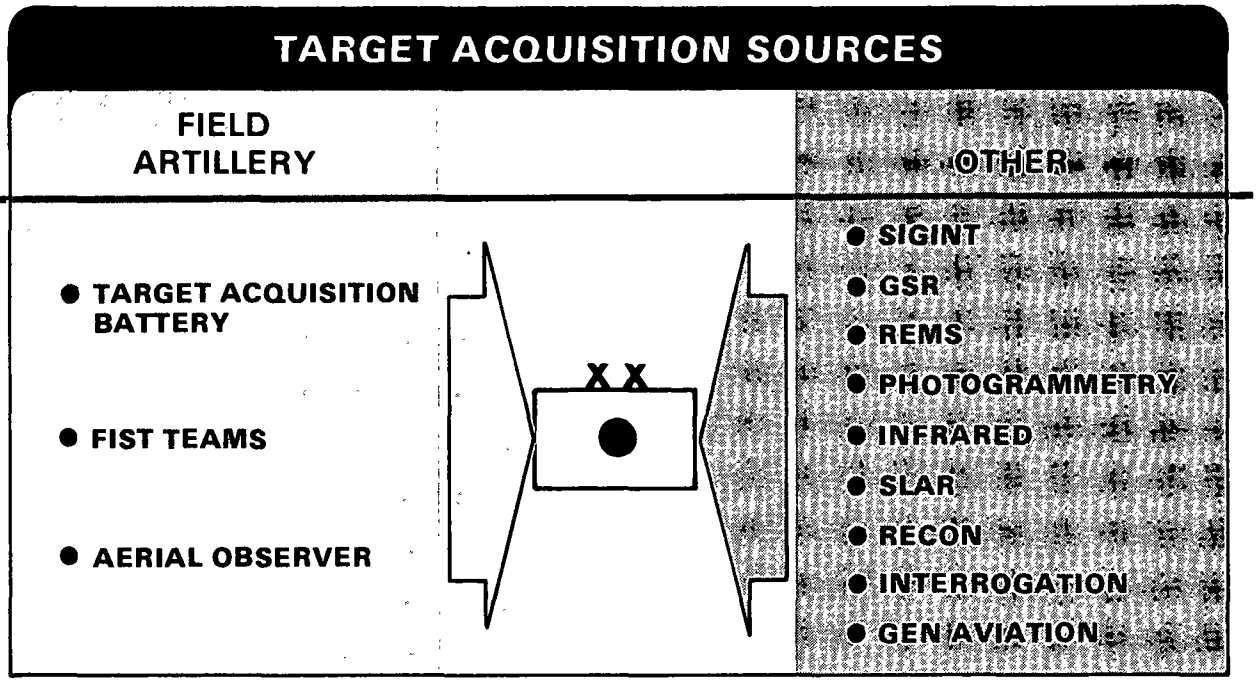


FIELD ARTILLERY

Field artillery is the division commander's principal and most responsive indirect fire weapon system. Divisional field artillery is organized with three medium howitzer battalions and one heavy howitzer battalion. One or more field artillery brigades may be attached to, or placed in support of the division by the corps.

Field artillery can deliver a variety of munitions. It is most often used to suppress or destroy enemy direct and indirect fire weapon systems with a combination of high explosives and improved conventional munitions; smoke munitions are used to obscure the enemy view of divisional units. Field artillery is also used to destroy or render ineffective enemy command control installations or facilities, and logistics and assembly areas. In the near future, field artillery will be able to lay down minefields with scatterable mine munitions, and destroy armored vehicles with precision-guided munitions.

Divisional field artillery can acquire targets from several sources. It has a target acquisition battery that acquires targets by radar and sound and flash ranging. Field artillery fire support teams (FIST) operating with tank and mechanized company teams acquire targets and adjust fires in support of maneuver. Aerial observers, assigned to the division artillery headquarters battery, are used either in general support or in direct support of committed units.



Field artillery is organized for combat by assigning standard missions to its units. Normally, one medium field artillery battalion is placed in *direct support* of each committed brigade; additional field artillery units may *reinforce* direct support battalions while some field artillery is usually kept in *general support* of the force as a whole. When organizing field artillery for combat, the following fundamentals should be kept in mind:

- **In offensive operations the main effort is provided additional support, while in defensive operations the most vulnerable sector is provided additional support.**

■ **Some field artillery should be kept in general support so the division commander can concentrate fires when and where necessary.**

Fire support planning is done at each echelon in the division by fire support elements operating with maneuver battalions, brigades, and in the division tactical and main command posts. Fire support planning may be formal or informal. Formal planning usually results in a written fire support plan.

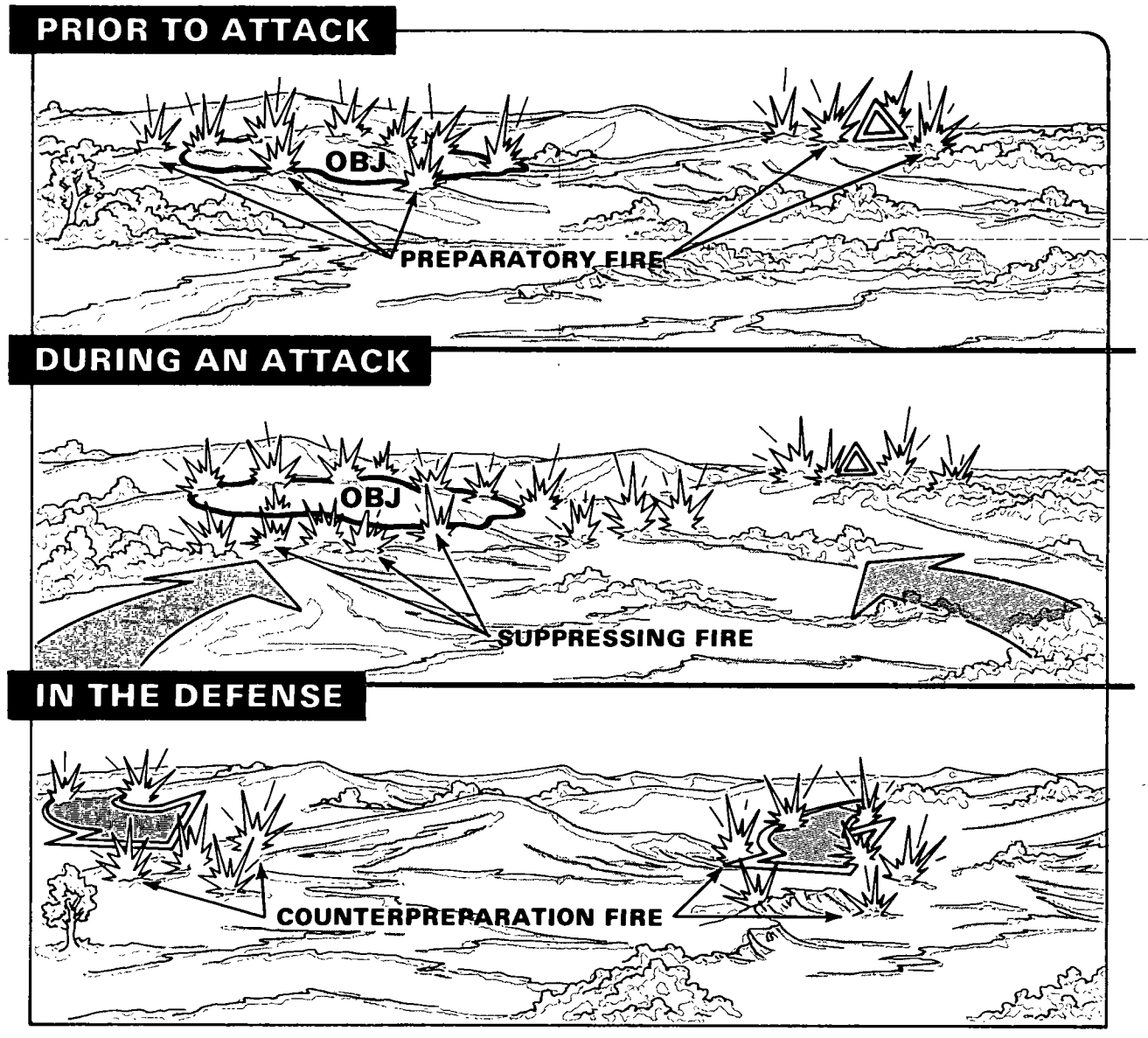
Prior to an attack, a preparation may be fired. Preparatory fires are usually delivered in a prearranged sequence to degrade enemy defenses prior to the arrival of attacking forces. *The decision to fire a preparation is normally made by the division commander.*

During an attack, fires are planned short of the objective to suppress enemy gunners and deny the ability to interfere with maneuver. Fires are also planned on the objective to suppress the enemy and to support assaulting forces, and beyond and to the flank of the objective to protect the force while it prepares to continue operations.

In the defense, fires are planned on likely avenues of approach. A counterpreparation may be fired to offset the potential effect of the enemy preparation, break up the momentum of his attack, and destroy his command control. *It is fired on order of the division commander.*

A planned counterfire program is normally prepared for both offensive and defensive operations. Counterfire is also fired on targets of opportunity.

When active nuclear operations are expected, the division normally develops a nuclear weapon subpackage, a plan for the employment of part of a corps package. Based on the commander's guidance, the subpackage is generally developed by the division fire support element in conjunction with the G3.



As a general rule, *nuclear fires are planned to destroy enemy nuclear delivery and air defense systems, command control systems, combat service support installations, second echelon regiments, and any reserves of first echelon divisions.* There are two methods for determining nuclear weapon requirements: preclusion oriented method used during the initial planning stage when detailed target information is not available, or target oriented method used when detailed target information is available. **Each is described in FM 6-20, Fire Support in Combined Arms Operations.**

Planning for employment of chemical munitions is similar to that for nuclear weapons. Chemical weapons may be planned on the same targets as nuclear weapons. They may also be planned to protect the division's flanks where appropriate.

The division commander's fire support coordinator is the division artillery commander. He coordinates delivery of field artillery fires through the division artillery tactical operations center and field artillery battalion fire direction centers. A fully automated tactical fire direction system (TACFIRE) will soon link together battalion fire direction centers, the division artillery tactical operations center, and fire support elements. This system will provide for more rapid response to the division's fire support requirements.

CLOSE AIR SUPPORT

USAF tactical aircraft provide close air support to the division. Because of their wide and varied ordnance loads, tactical fighter bombers are very effective against enemy in well-fortified positions. They can destroy hard point targets, tanks, and other armored vehicles quickly and effectively. Close air support aircraft can operate alone, or together with attack helicopters and field artillery. *Close air support must be an integral part of fire support.*

TACPs COORDINATE AIRCRAFT SUPPORT WHEN PREPLANNING IS NOT PERMITTED

Preplanning close air support improves its effectiveness. Ordnance can be matched precisely to target and suppression of enemy air defenses can be well coordinated. Pilots have time to plan the most effective tactics to destroy the target at the time required. When the situation does not permit preplanning, available supporting aircraft make radio contact with one of the Air Force tactical air control parties (TACPs) supporting the division to get a detailed briefing on target location, enemy air defenses, and the location of friendly troops.

Coordination and control of all close air support for the division is done by Air Force TACPs located with the division command post, with brigades, and with tank and mechanized battalion task forces. Forward air controllers from the TACPs, or operating from aircraft, insure that supporting aircraft can accurately identify targets to be struck. *If a forward air controller is not available, Army personnel, usually members of a field artillery fire support team can direct the strike.*

In both offensive and defensive operations, air defense for command control and service support installations should be provided. To the extent possible, critical points along lines of communications, for example, bridges and sometimes intersections, should be protected. This is particularly true during retrograde and covering force operations. **Chaparral/ Vulcan operations are further described in FM 44-3, Air Defense Artillery Employment-Chaparral/Vulcan.**

Air defense artillery fires, to include fires from small arms and crew-served weapons, are controlled by air defense rules and procedures normally provided to the division by corps.

The division commander has authority to impose more restrictive controls on air defense weapons if the situation requires. The division commander may not reduce the level of control on his own authority without the approval of higher headquarters.

A division airspace management element is located in the tactical operations center of the division main command post. Its purpose is to coordinate use of airspace over the division's operational area.

ENGINEERS

The divisional engineer battalion is organized with a headquarters company, four engineer companies, and a bridge company. Engineers remove and emplace mines and obstacles, build or repair roads, emplace bridges, and help tank and mechanized battalion task forces and field and air defense artillery battalions construct fighting positions. Engineers sometimes fight as infantry, but not routinely. Such occasions are more probable during defensive operations than offensive operations.

A divisional engineer company is usually placed in direct support of each brigade. Engineer platoons operate with battalion task forces. Divisional engineers operate forward with fighting units. This is particularly true in an advance to contact, during a deliberate attack against fortified positions, or when preparing for defensive operations. The bridge company has an armored vehicle launched bridge (AVLB) platoon. AVLBs are used to span short gaps, less than 18 meters wide. Since tank battalions have their own armored vehicle launched bridges, the AVLB platoon most often supports task forces organized around mechanized headquarters. The bridge company also has a rafting platoon, equipped with either mobile assault bridges or float bridges. However, there is insufficient divisional bridging to support large scale river crossing operations; so when these operations are necessary, additional bridging is required from corps engineer units. **River Crossing Operations are between operations and further in FM 90-13.**

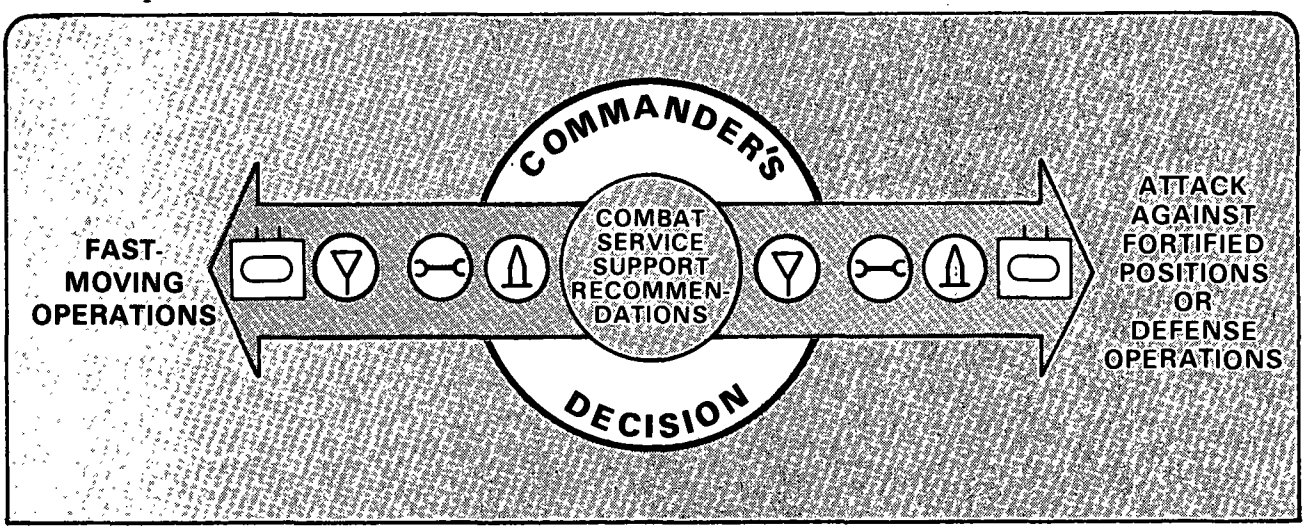
The division commander establishes engineer work priorities. The G3 and division engineer battalion commander work together to develop work priority recommendations for the commander to consider. In offensive operations, obstacle reduction, bridging, and maintenance of supply routes are most important. In defensive operations, obstacle construction, minefield emplacement, and fighting position construction are most important. Here also, maintenance of supply routes must be accomplished. **FM 90-7, Obstacles, describes in detail obstacle reduction and construction. Other engineer operations are described in FM 5-100, Engineer Combat Operations.**

COMBAT SERVICE SUPPORT

The division support command provides fuel, ammunition, and maintenance, replaces crews and equipment lost in battle, and treats and evacuates wounded.

The division commander establishes priorities for combat service support. The G1, G4, and division support command commander work together to provide combat service support recommendations to the division commander. During fast-moving operations, for example, during an exploitation or pursuit, fuel may be most important. During an attack against a well-fortified

position or during a defensive operation when heavy fighting is expected, ammunition and maintenance support may be most important.



Much of the division support command operates in brigade support areas since brigades have no combat service support units of their own. Division support command units most often found in the brigade support area are a maintenance company, a forward supply section from the supply and transportation battalion, a medical company, and maintenance support teams from the transportation aircraft maintenance company.

Division support command operations in the brigade support area are controlled by a forward area support coordinating officer (FASCO). He works with the brigade executive officer and S4 to see that the needs of the brigade are met. Combat service support operations are described in detail in Chapter 6, *Combat Service Support Operations.*

COMMAND CONTROL

To direct the battle, the division commander must move where he can best control the operation. In an attack, this is most often near the leading brigade. In the defense, the division commander operates with the forces defending against the enemy's main effort. The division commander usually establishes a tactical command post and a main command post to control combat operations. Combat service support operations are controlled in the division materiel management center (MMC) described in Chapter 6, *Combat Service Support Operations.*

TACTICAL COMMAND POST

The division commander most often directs the battle from a small mobile tactical command post, located forward and staffed with selected assistants. The division commander organizes the tactical command post in the manner that works best for him. However, it is normal to find the G3, USAF air liaison officer, and the division artillery commander or his assistant fire support coordinator operating from the tactical command post. Other officers or their assistants may also operate from the tactical command post from time to time.

When for some reason it is necessary to operate with leading battalion task forces, the division commander goes forward with a small command group in one or two vehicles. Again, he takes those assistants who can best

FIELD ARTILLERY AND CLOSE AIR SUPPORT

Priority of field artillery fires and close air support is normally given to the brigade or brigades making the main effort. When up against strong enemy positions, a field artillery preparation may be fired. In determining whether or not to fire a preparation, it is necessary to consider:

- **if the destructive or suppressive effects will offset any loss of surprise, and**
- **if sufficient targets have been located to warrant the ammunition expenditure.**

As in the case of field artillery, when sufficient targets are located in advance, close air support can and should be preplanned.

AIR DEFENSE ARTILLERY PROTECTION

Air defense artillery protects leading brigades and battalion task forces, division command posts, and service support installations.

ENGINEER SUPPORT

Priority for engineer support is also given to the brigade or brigades making the main effort. When gaps are to be crossed and hasty river crossing operations are to be conducted, sufficient bridging is essential. **River crossing operations are described in FM 90-13, River Crossing Operations.**

ELECTRONIC WARFARE AND INTELLIGENCE SUPPORT

Collection and jamming units and ground support radar teams from the combat electronic warfare and intelligence battalion normally operate with each brigade. They operate forward and on the flanks to locate enemy units and weak points. Location of reserves, regimental command posts, field and air defense artillery units, and enemy jammers are also important.

CONTROL MEASURES

Control measures are necessary for proper organization and control of offensive operations. They are keyed below to the illustration on next page.

1. **A Route of Advance** shows the assigned route of march and is labeled with a number, letter, or name. The start point (SP) and release point (RP) may also be shown.

2. **A Line of Departure (LD)** is designated to coordinate the departure of attack elements. It should be easily recognized on the ground and map, and should generally be perpendicular to the direction of attack.

3. **Passage Points** are designated in the location of the unit being passed. They show the points through which, the commanders agree, passing units should physically move.

4. **Boundaries** mark sectors of responsibility. However, commanders must not allow boundaries to prevent fires on an enemy force simply because the enemy is on the other side of a boundary.

5. **Coordination Points** are designated where covering force area (CFA) and main battle area (MBA) boundaries meet. Leaders coordinate fires and maneuver at these points and along boundaries.

6. **Phase Lines** extend across the zone or likely area of action and are located on easily recognized terrain features such as ridgelines, streams, and roads. Phase lines are used to control the movement of units.

7. **Directions of Attack** can be assigned when objectives are not assigned. They may also be useful supplementary control measures, as are

8. **A Limit of Advance** is set by the commander for control and for preventing assaulting elements from being hit by friendly fires.

9. **Fire Support Coordination Lines (FSCL)** are those lines forward of which all targets may be attacked by any weapon system without danger to, or additional coordination with, the establishing headquarters.

10. **Contact Points** are designated places where two or more units are required to make physical contact.

11. **Objectives** are normally assigned in an attack. They may be the only control measures assigned and are used to focus the efforts of attacking units.

12. **Coordinated Fire Lines (CFL)** delineate the area beyond which field artillery, mortars, and ships may fire at any time without additional coordination.

13. **Axes of Advance,** which indicate general direction of movement of an attacking unit, or **Zones of Attack** which consist of the assigned area of operation of subordinate elements.

14. **Checkpoints** are reference points used to facilitate control. They may be selected throughout the zone of action or along an axis of advance or direction of attack.

15. **Assembly Areas** are occupied for organization, combat, maintenance, supply, issuance of orders, and rest. The command assembles in the assembly area to prepare for operations.

- **Restrictive Fire Lines** are established to coordinate fires between any converging or adjacent forces. (Not shown.)

3

Attack of an Occupied Objective. Techniques used to attack an occupied objective during periods of limited visibility are similar to those used during a daylight deliberate attack. Detailed knowledge of enemy dispositions on each position to be assaulted must be available to make this type attack successful. The maneuver force can often get closer to an enemy position by capitalizing on the enemy's inability to acquire and engage long-range targets, and on reduced mutual support between enemy positions due to lack of visibility. *Although the fundamental of attacking enemy weaknesses holds true, attacks during periods of limited visibility can be used to rupture strong enemy positions when no weaknesses can be found.*

THE COMMANDER MUST HAVE DETAILED KNOWLEDGE OF ENEMY DISPOSITIONS ON POSITIONS TO BE ASSAULTED

When a mounted attack is conducted, dismounted engineers and infantry may be used to breach enemy obstacles ahead of mounted elements. Illumination fires are planned and called for if required—normally not until final assaults are made. Smoke should be planned to cover movement. Field artillery and mortar fires may be used to deceive the enemy and hide the sound of vehicle movement, as well as to suppress his positions. Deception measures can be effective in misleading the enemy as to the location and time of attack. The attacker moves as close to enemy positions as possible without having to fight, then overwhelms the enemy with carefully planned final assaults.

Distances to be covered should be relatively shallow (1 to 3 kilometers from LD to objective). Leaders at all levels should have the opportunity to observe the terrain all the way to the objective during good visibility.

Command control will be primarily by radio once the attack begins. Insofar as they can be seen, visual aids for recognition may assist in control of forces. Color panels, arm bands, luminous strips, or patterns may help. Objectives will usually cover less ground than is normally the case, and must be sufficiently prominent so that they can be easily found.

LINKUP OPERATIONS

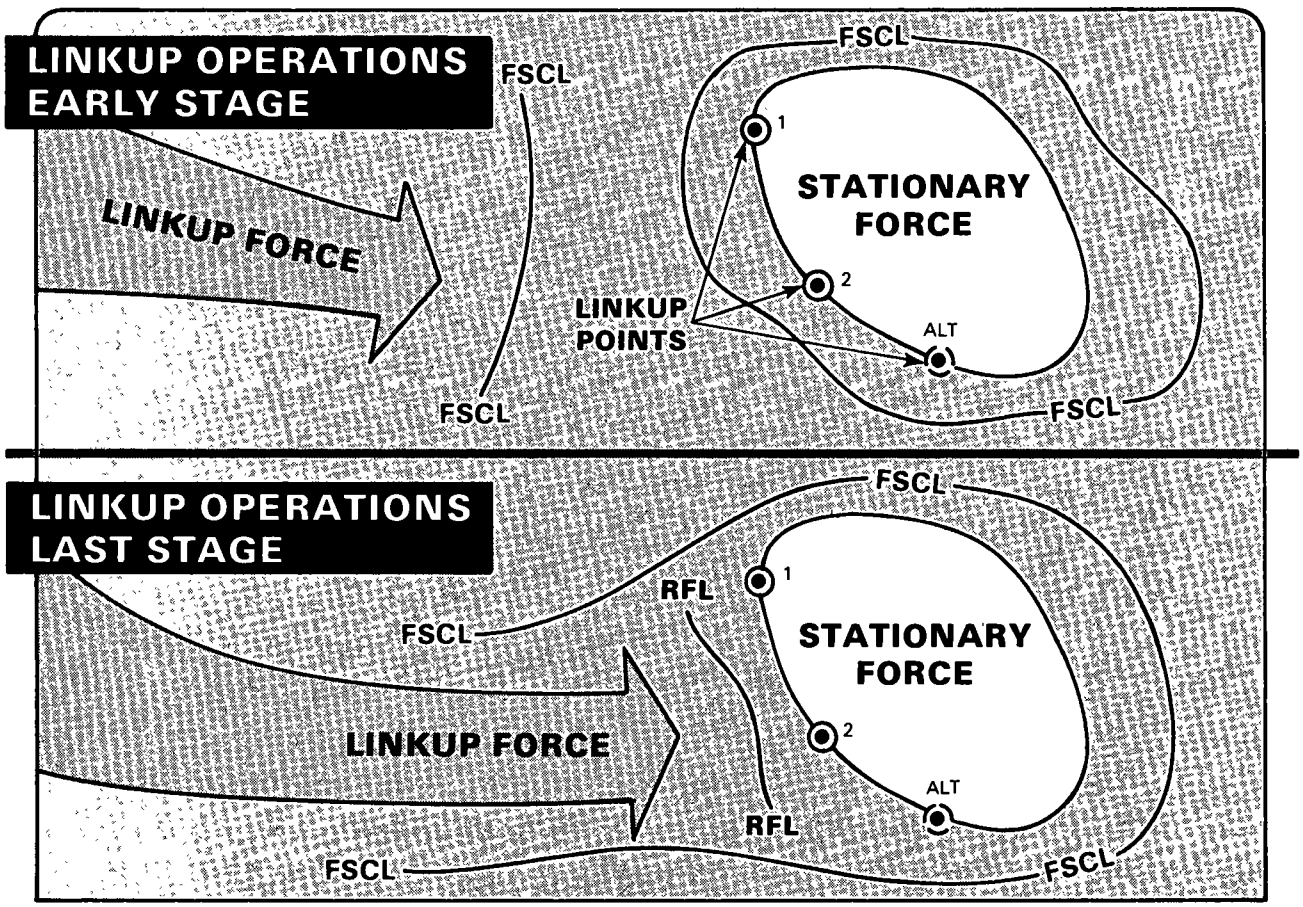
Linkup operations are conducted to join two friendly forces together. Both forces may be moving towards one another, or one may be stationary while the other is moving. Linkup operations may be conducted in a variety of circumstances. They are most often conducted to:

- **complete the encirclement of an enemy force,**
- **assist breakout of an encircled friendly force, or**
- **join an attacking force with a force inserted in the enemy rear, for example, an airborne or air assault force.**

When linkup is accomplished, the two forces may operate as a combined force or continue to operate separately under control of a higher commander.

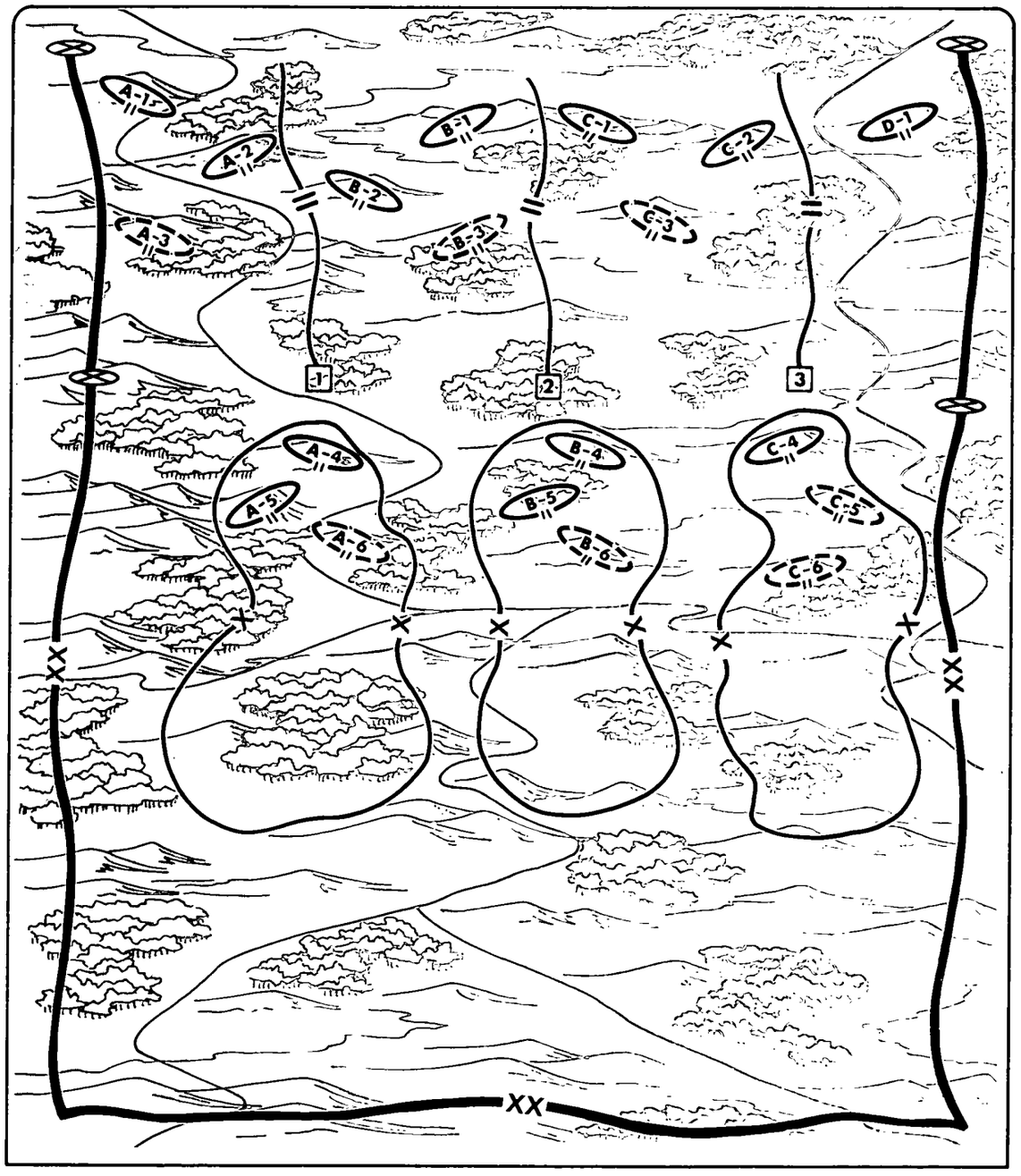
The headquarters ordering the linkup establishes the command relationship between forces and the responsibilities of each. It should also establish control measures such as boundaries between converging forces, fire support coordinating lines, and other measures to control maneuver and fires. Such control measures may be adjusted during the operation to provide for freedom of action as well as positive control.

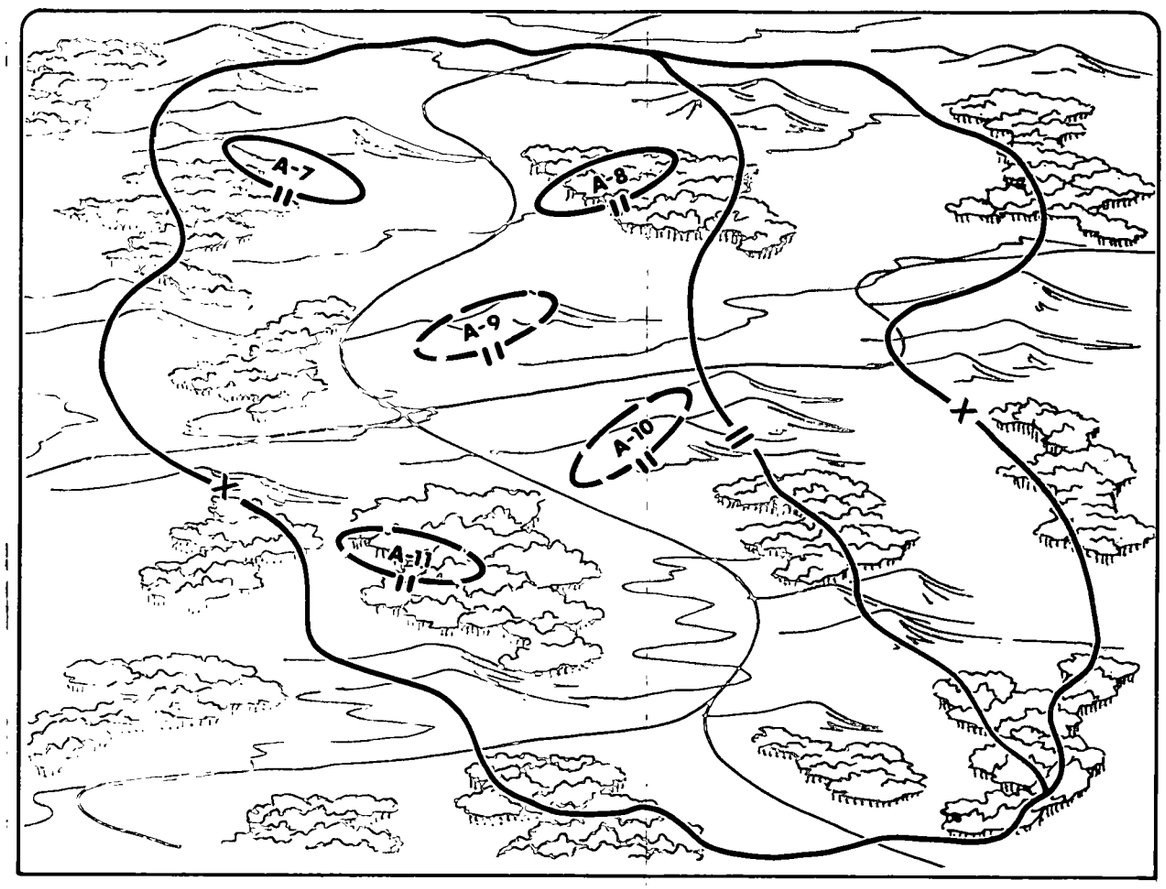
When the corps directs the operation, it normally establishes a fire support coordination line (FSCL) for both forces. FSCLs are adjusted as one force moves towards the other until one FSCL is used for both forces as shown in the illustration. A reinforcing fire line (RFL) is established between the forces when necessary.



There are several ways to use battle positions, battle areas, and boundaries, for example: When the covering force commander intends for his battalion task forces to have relative freedom to maneuver, boundaries are usually necessary.

A brigade commander in the main battle area has three battalion task forces. He may wish to maneuver two and allow the third to maneuver at his own discretion in an economy of force area.





The division commander should normally operate from a tactical command post. It should be located well forward in the main battle area. It should be in the covering force area when directing covering force operations. It should be located near the unit controlling the major part of the battle—usually on a major avenue of approach.

When battle is joined, the division commander must continuously watch the enemy advance. His information must be real time or nearly so. He must know where his own units are located, which are engaged at any moment, and which are on the move and to what locations. If he is to control the concentration of battalion task forces, he must be able to quickly assess each new situation. He may be required to direct detachment, movement, and reattachment of battalion task forces, thinning a brigade in one area to thicken another somewhere else. He must be able to accurately judge time-distance factors if he is to concentrate forces against the major threat. His total picture of the battle must include the engagements ongoing and a pretty good estimate of those to follow.

MOBILITY OPERATIONS

When defending, the majority of engineer effort is devoted to countermobility operations. However, it is necessary to expend as much effort as time and resources permit to open and maintain routes for rapid movement by divisional forces from one battle position to another, and to provide for supply, maintenance, and recovery operations.

When it is necessary to cross a water obstacle while moving from one battle position to another, company teams and battalion task forces conduct hasty crossings. So, engineers must insure that sufficient bridging for use by divisional forces is positioned in both the CFA and MBA. They must also insure that entrance and exit banks of fords are maintained and that existing bridges are properly reinforced and repaired, or replaced with tactical bridging when necessary. When the division commander intends to establish a strong defense at the exit bank of a major river, following a delay operation, the division mounts a ***river crossing operation as described in FM 90-13, River Crossing Operations. FM 5-100, Combat Engineer Operations, also contains additional information on river crossing operations.***

COUNTERMOBILITY OPERATIONS

Obstacles are used to decrease enemy mobility without hindering friendly maneuver. Obstacles can divert enemy forces from covered avenues into open areas where direct fire weapons can engage. In open areas, obstacles can extend the amount of time enemy units are exposed to friendly fire.

Natural Antitank Obstacles consist of:

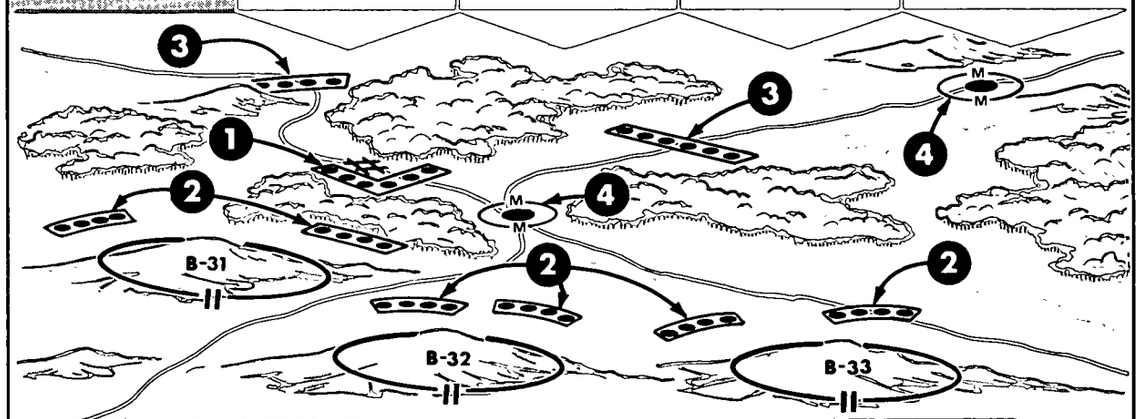
- **mountains, terrain, and slopes over 60 percent;**
- **escarpments** (for example, railroad tracks or highways on a steep fill over 1½ meters high);
- **ravines, gullies, or ditches over 5-meters wide;**
- **rivers, streams, or canals over 150-meters wide and 1½-meters deep;**
- **swamps and marshes over 1-meter deep;**
- **forests or jungles with trees 8 inches in diameter, or 20 percent slopes with trees as small as 4 inches in diameter,** (tree stumps 18 inches high are obstacles);
- **snow over 1-meter deep; and**
- **built-up areas.**

Reinforcing Obstacles consist of:

- **Antitank Obstacles:** Log obstacles—hurdles, cribs, posts and abatis, concrete and steel obstacles, tetrahendrons, hedgehogs and falling block obstacles and ditches are effective antitank obstacles. They should be sited to take advantage of trees, brush, or folds in the ground.
- **Wire Obstacles:** Wire entanglements are designed to impede the movement of foot troops and, in some cases, tracked and wheeled vehicles.
- **Minefields:** There are several types of minefields.

MINEFIELDS

MINEFIELD DESCRIPTION	POINT	HASTY PROTECTIVE	TACTICAL	POINT
INSTALLED BY	ENGINEERS (CONVENTIONAL)	BATTALION/ COMPANY	ENGINEERS	ARTILLERY (SCATTERABLE)
AUTHORITY TO EMPLOY	DIVISION/ BRIGADE*	BATTALION/ COMPANY*	DIVISION/ BRIGADE*	DIVISION/ BRIGADE**
USE	TO COMPLEMENT ROAD CRATER	CLOSE-IN PROTECTION	STOP/DELAY/ DISRUPT	STALL OR STOP ENEMY AT PARTICULAR POINT
ILLUSTRATION KEY	1	2	3	4



OTHER TYPE MINEFIELDS

MINEFIELD DESCRIPTION	DELIBERATE PROTECTIVE	INTERDICTIVE	PHONY
INSTALLED BY	ENGINEERS	ARTILLERY/ AIR	ENGINEERS
AUTHORITY TO EMPLOY	BATTALION CDR OR INSTALLATION CDR		SAME AS FOR TYPE MINEFIELD BEING SIMULATED
USE	LOCAL PROTECTION FOR SEMI-PERMANENT INSTALLATIONS	HARASS ENEMY IN REAR AREAS	TO DECEIVE ENEMY WHEN UNABLE TO USE LIVE MINES

*CAN BE DELEGATED TO
**BRIGADE FOR SCATTERABLE MINES LASTING LESS THAN ONE DAY

CHAPTER 6

Combat Service Support Operations

The G4, G1, division support command (DISCOM) commander, his staff, and the division transportation officer all work together to put the maximum number of operating weapon systems on the battlefield. This is the purpose of combat service support. The G1 and G4 plan for combat service support operations, while the DISCOM commander conducts combat service support operations.

While the *division support command* (DISCOM) is organized to provide a variety of combat service support to divisional units, its most important functions are to arm, fuel, fix, and man the weapon systems. And it must do this as far forward as the tactical situation permits in order to return inoperable weapon systems to the battle as quickly as possible. Before describing how these functions are accomplished, it is first necessary to describe how the DISCOM organizes for combat service support.

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ORGANIZATION FOR COMBAT SERVICE SUPPORT OPERATIONS

The DISCOM is organized with:

- **A HEADQUARTERS AND HEADQUARTERS COMPANY to provide for command control.**
- **A MATERIEL MANAGEMENT COMPANY to provide for supply and maintenance management.**
- **A SUPPLY AND TRANSPORT BATTALION to get together and move supplies for the division.**
- **A MAINTENANCE BATTALION for recovery, repair, and evacuation of the division's equipment.**
- **A MEDICAL BATTALION to treat and evacuate patients.**
- **AN ADJUTANT GENERAL COMPANY to provide personal services—all except financial services which are provided by a finance company.**

Divisional battalions and the armored cavalry squadron have some organic combat service support means, the composition and operations of which are described in the appropriate unit manual.

A divisional brigade does not have combat service support units of its own, although it does have a personnel staff officer (S1) and logistics staff officer (S4) to plan and coordinate combat service support operations in support of the brigade. Combat service support is provided to the brigade by DISCOM units, and by units from the *corps support command* (COSCOM).

BRIGADE TRAINS

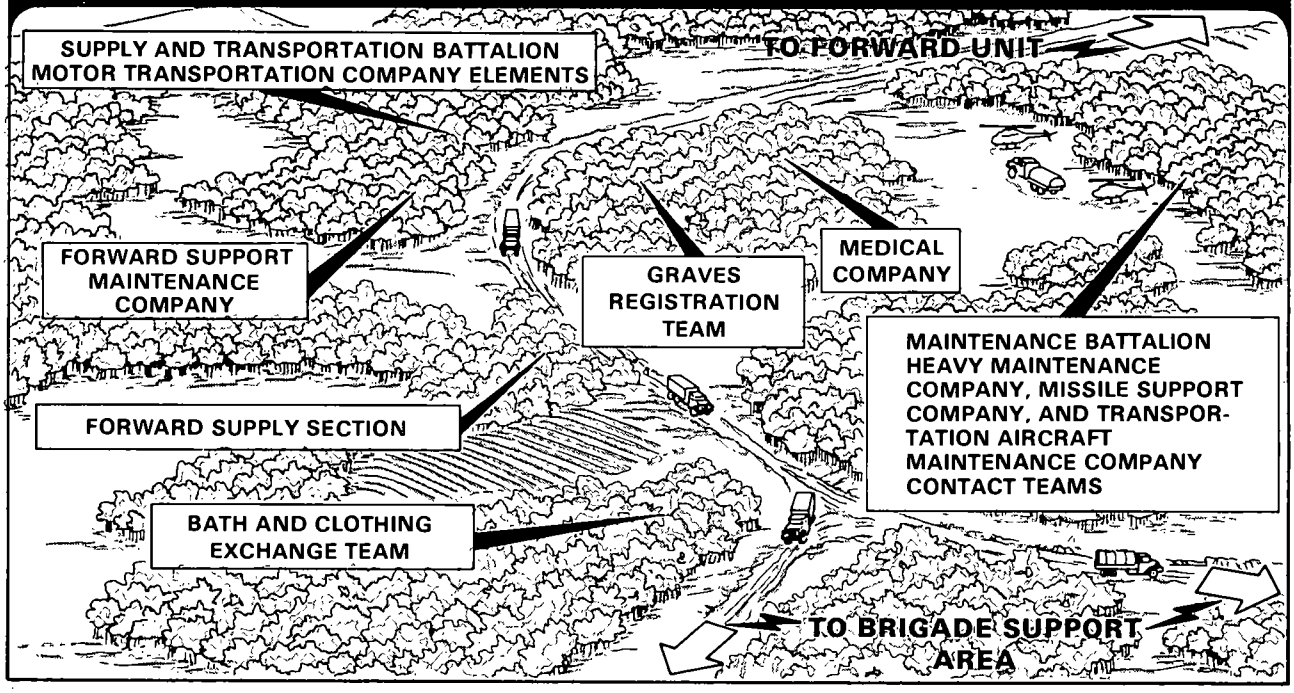
Any grouping of personnel, vehicles, and equipment put together to provide combat service support to a unit is called the unit trains. Brigade trains are organized around forward area support teams provided by the DISCOM. The DISCOM commander, working with brigade S4s, forward area support coordinators, division G4, and DISCOM battalion commanders, tailors DISCOM forward support elements based on operational requirements of each brigade. Although the specific organization of each forward support element may vary with the supported brigade's mission, each element generally has:

- **a forward support maintenance company,**
- **a forward supply section from the supply and transport battalion, and**
- **a medical company.**

Other elements which may operate with a forward support element are:

- **maintenance support teams from the maintenance battalion heavy maintenance company, missile support company, and transportation aircraft maintenance company;**
- **elements of the supply and transport battalion motor transport company; and**
- **graves registration, bath and clothing exchange elements when provided by augmentation or a non-divisional field service company.**

A TYPICAL UNIT TRAIN

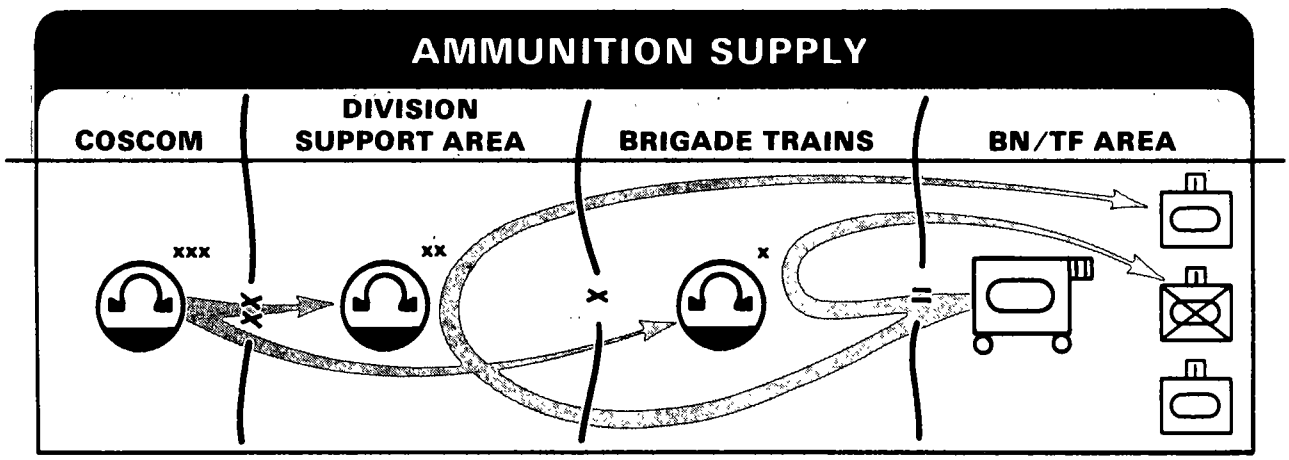


Some ammunition, particularly controlled ammunition, should be held in reserve to provide for unforeseen circumstances.

Should the division transportation officer determine there is insufficient divisional transportation to replenish unit basic loads as fast as they are expected to be consumed, he should request additional transportation from corps. If this is not available, the G4 should inform the division commander so the commander can modify his tactical plan if necessary.

When authorized to carry nuclear weapons, a prescribed nuclear load (PNL) for the division is designated by corps, theater army, or the combined command of which the division is a part. The PNL is the number of weapons by yield a unit is *required* to carry. The division will normally distribute its PNL for each subordinate nuclear-capable delivery unit.

Once the operation begins, the G4 monitors how much ammunition is being consumed by units in contact through the battlefield information-reporting system described in Chapter 7, *Command Control of Combat Operations*. Stocks are replenished, adjusted, and redistributed as necessary to support the operation.



FUELING

The ability of the division to provide bulk fuel to its units, particularly to battalion task forces, field, and air defense artillery battalions, is most important to the division commander. Packaged items, such as oil and lubricants, are also important; however, the small quantities involved make them relatively easy to supply.

Division fuel requirements are based on consumption rates and forecasts developed by battalions. The brigade S4 refines estimates provided by battalions and forwards brigade requirements to the division materiel management center. Here, brigade requirements are reviewed after they are consolidated with requirements of division artillery and those of other divisional battalions.

In reviewing division requirements, special circumstances which could result in unusually high fuel consumption rates should be considered. It is particularly important to consider the effects of terrain on fuel consumption. For example, vehicles operating over hilly terrain will consume more fuel than those operating on relatively level terrain. Once divisional forecasts have been adjusted as appropriate, requirements are provided to COSCOM. **FM 101-10-1, Staff Officers Field Manual,**

Organizational, Technical, and Logistical Data, contains fuel consumption data, although data should be modified by experience.

As in the case of ammunition, once fuel requirements are forecasted, the G4 must determine the best way to deliver fuel to divisional units. Although the division's ability to receive, store, and distribute bulk fuel is somewhat limited, each divisional unit has some fuel-carrying capability of its own. Battalions are equipped with tankers and fuel pods mounted on cargo-carrying vehicles. The supply and transport battalion has tankers, as well as bulk fuel storage bladders which can be positioned in brigade support areas or other locations relatively close to using units. Petroleum medium-truck companies of the COSCOM can sometimes provide additional tankers to meet the division's requirements.

As a general rule, *COSCOM delivers bulk fuel to fuel distribution points located in division and brigade support areas.* Sometimes, divisional tankers may be used to transfer fuel from COSCOM distribution points to division distribution points.

Whenever possible, fuel is delivered from the brigade support area to forward tank and mechanized battalion task forces, and sometimes to company teams by DISCOM tankers. Here, empty tankers may be exchanged for full tankers. When necessary, COSCOM tankers also deliver fuel directly to forward battalion task forces or to leading company teams.

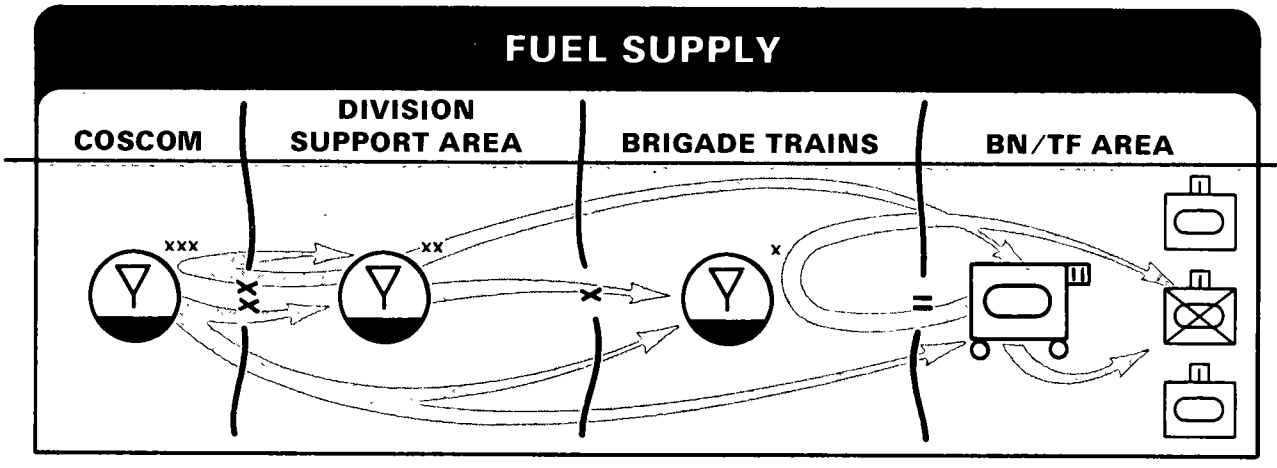
Units operating in the division support area go to the nearest fuel distribution point to obtain bulk fuel.

Aviation fuel is normally delivered to supply and service company fuel storage elements near the division airfield by COSCOM. The aviation battalion can also establish forward area refueling and rearming points in brigade support areas to support air cavalry and attack helicopter operations. Attack helicopter units attached to the division can establish forward area refueling and rearming points of their own. However, the division or COSCOM must deliver fuel to those points since attack helicopter units have very limited capability to do so on their own.

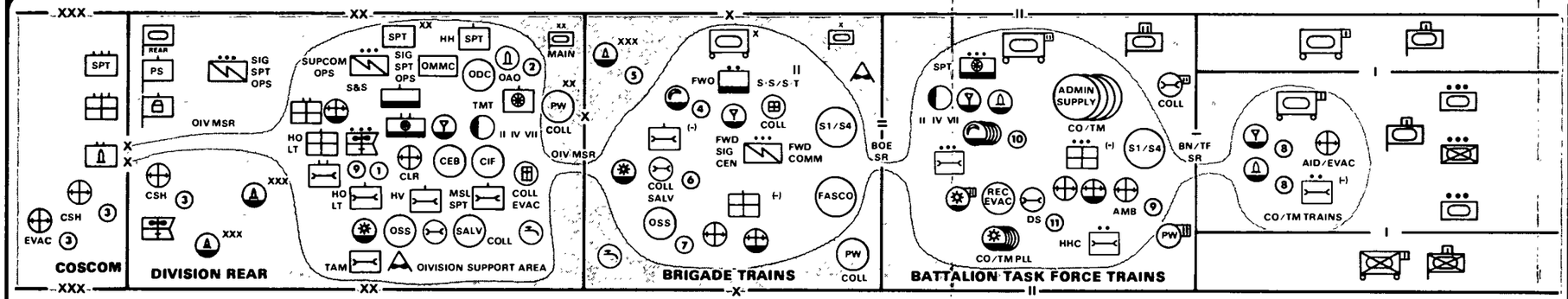
Forward deployed divisions, Europe for example, should exercise fueling plans as frequently as necessary to insure plans are workable.

As in the case of ammunition, some bulk fuel, both vehicle and aviation, should be held in reserve to provide for unforeseen circumstances. *If for any reason the division G4 determines that there is an insufficient amount of fuel to support the operation, he should inform the division commander so the tactical plan can be modified if necessary.*

Once the operation begins, the G4 follows the status of heavily engaged units through the battlefield information-reporting system. Stocks are replenished, adjusted, and redistributed as necessary to support the operation.

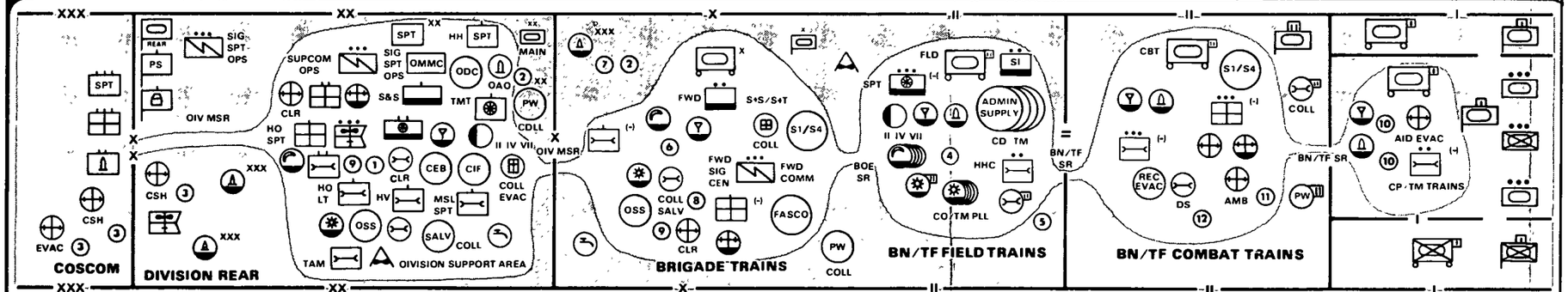


DEPLOYMENT OF LOGISTICAL SUPPORT ACTIVITIES IN ARMORED DIVISION WITH BATTALION TASK FORCE UNIT TRAINS



1. Air ambulance detachments may be placed in the division area.
2. Division ammunition representatives normally locate in or near ammunition supply points.
3. Normally a division is supported by two combat support hospitals and one evacuation hospital.
4. When crew-feeding system is used, Class I point may be located in division support area.
5. Ammunition supply points may be located in brigade support area or in the division support area.
6. Maintenance and salvage collection points are operated jointly by the maintenance battalion and the supply and transportation battalion.
7. Quick supply stores issue over-the-counter, low-cost repair parts.
8. Fuel and ammunition vehicles may remain with the company team if situation requires. Normally these vehicles are located in the battalion task force trains.
9. Ambulance team is usually attached from the supporting medical company.
10. Mess teams may be consolidated and operate from positions farther to rear, particularly when crew-feeding system is used.
11. Direct support maintenance contact team is attached or placed in support.

DEPLOYMENT OF LOGISTICAL SUPPORT ACTIVITIES IN ARMORED DIVISION WITH BATTALION TASK FORCE COMBAT AND FIELD TRAINS



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2. Division ammunition representatives normally locate in or near ammunition supply points.
3. Normally a division is supported by two combat support hospitals and one evacuation hospital.
4. Mess teams may be consolidated and operate from positions farther to rear, particularly when crew-feeding system is used.
5. Field trains may be collocated with brigade.
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LEGEND

- POL Supply Point
- Class I (Rations) Supply Point
- Ammunition (All Types) Supply Point
- Artillery Ammunition Supply Point
- Class VIII (Medical) Supply Point
- Class IX (Repair Parts) Supply Point
- Multiple Class Supply Point
- Graves Service
- Water Point
- Hospital or Aid Station
- Maintenance Point
- Airfield
- Repair & Maintenance Unit
- Medical Unit
- Transportation Unit
- Supply Unit
- Ordnance Unit
- Personnel Services & Administration Unit
- Finance Unit
- Signal Unit
- Aeromedical Evacuation Unit

To facilitate supply management, supplies are grouped into ten major classes:	
■ Class I	Rations and gratuitous issue of Health, Morale, and Welfare Items;
■ Class II	Clothing, Individual Equipment, Tentage, Tool Sets, Kits, Hand Tool Sets, Administrative and Housekeeping Supplies, and Equipment;
■ Class III*	Petroleum, Oil, and Lubricants;
■ Class IV	Construction Materials;
■ Class V*	Ammunition;
■ Class VI	Personal Demand Items sold through post exchanges;
■ Class VII*	Major End Items such as Tanks, Armored Personnel Carriers, and Attack Helicopters;
■ Class VIII	Medical;
■ Class IX*	Repair Parts; and
■ Class X	Nonstandard Items to Support Nonmilitary Programs such as Agriculture and Economic Development.
* Class III, V, VII, and IX supply procedures were previously described in this chapter Medical supply procedures (Class VIII) will be described under medical operations later in this chapter.	

Class I - Rations: Front-line units carry enough combat rations on board combat vehicles to last 3 to 5 days. When the situation permits, hot meals may be prepared. It is normal, however, for divisional units to use combat rations during combat operations.

Rations are delivered by COSCOM to Class I supply points in the division or brigade support area based on strength figures provided by the division G1 or adjutant general. Within the division, supply point distribution is used.

Class II and IV Supplies: These are issued by the lowest echelon having the item. Normally supply point distribution is used. Units submit requirements to forward supply elements in the brigade support area. Requests are forwarded to the division materiel management center for items not stocked by forward support elements, then to COSCOM for items not stocked by the division. The supply and transportation battalion or COSCOM delivers supplies to forward supply points in the brigade support area. Class VI supplies are handled in generally the same way.

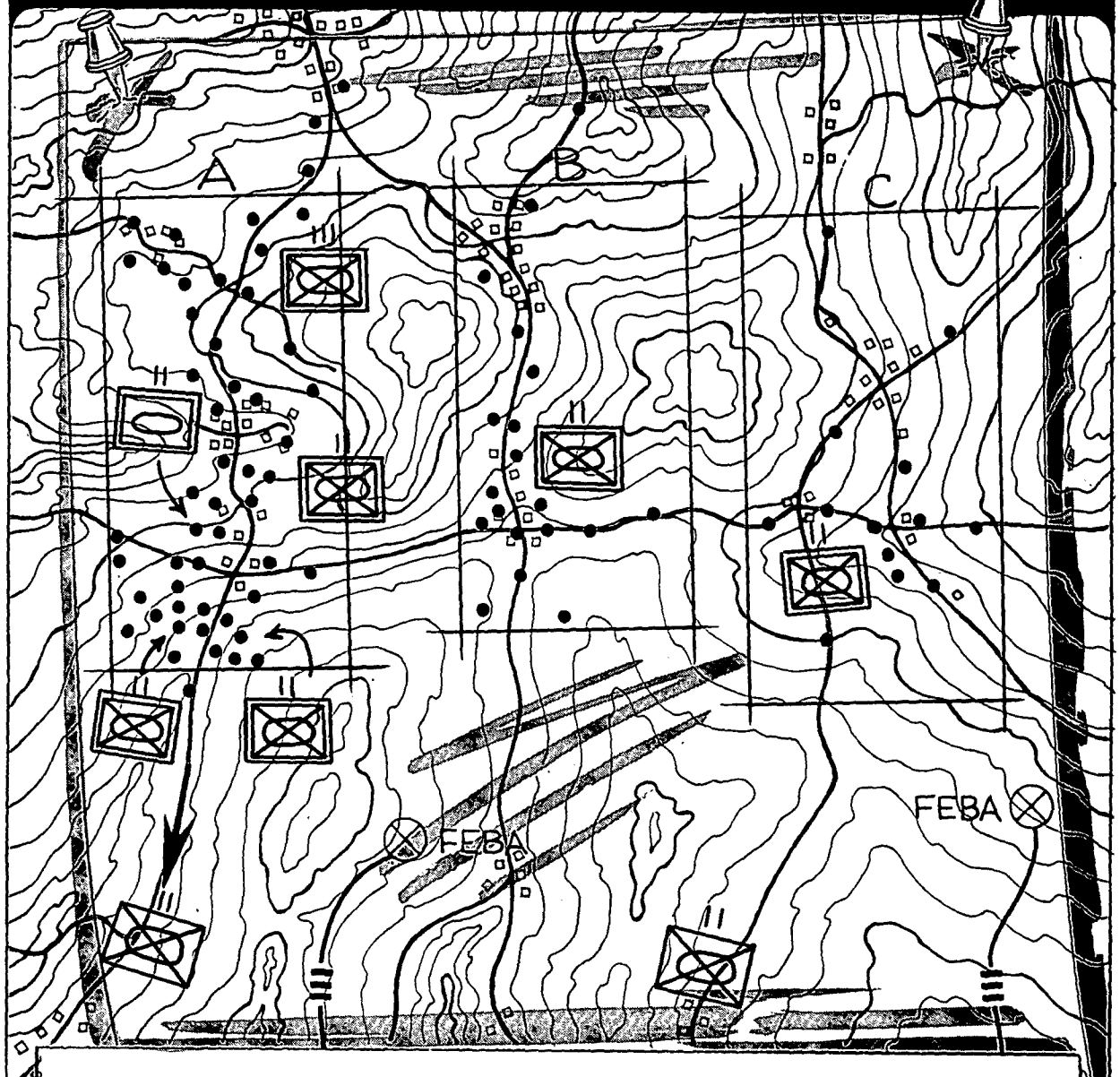
Water distribution is made through water points operated by the engineer battalion. Divisional units normally pick up water at the nearest water point. When necessary, the supply and transportation battalion delivers water to units.

TRANSPORTATION

The supply and transportation company of the transportation battalion has light and medium cargo and fuel vehicles to support combat service support operations. Division transportation resources are controlled by the division transportation officer through the DISCOM Movement Control Officer. When there is insufficient transportation to meet divisional requirements, additional transportation, air or ground, is requested from corps. *If transportation is in short supply, the division commander or G3 must establish transportation priorities.*

Helicopters can be used to move troops and supplies rapidly about the battlefield. Utility helicopters, found in the division aviation battalion, can be used for this purpose; but their capabilities are limited. When additional utility helicopters or assault

EVENT TEMPLATE DEPICTING ENEMY ACTIVITY



Reports have identified movement of several major enemy units.

The commander identified three windows at A and B; he then directed his G2 to concentrate the collection effort on those areas. If the enemy is prepared for an attack, reconnaissance elements, traffic regulating points, and other indicators should be detected in the windows. Collection activities are intensified and requirements are precisely defined. As enemy units are detected, event templates help indicate where the main attack will most probably occur.

BY PROPERLY DIRECTING THE EFFORTS OF HIS INFORMATION-GATHERING OPERATIONS, THE COMMANDER CAN GAIN THE INFORMATION HE NEEDS TO MAKE DECISIONS

Thus, by properly directing information-gathering operations, the commander can gain the perishable information he needs to make decisions. The commander can orient the efforts of his collection agencies by using templates. Collection agencies can provide him continuous surveillance of enemy activities and key locales which will indicate enemy intentions—where, when, and how he will attack, defend, or take some other course of action. Electronic means continuously monitor enemy command control nets, search for radars, and monitor logistics activity to identify and locate major weapon systems and troop concentrations. When they are identified and located, the commander can begin to assess enemy intentions. Imagery can locate tank and artillery buildup. Imagery from overhead platforms can look deeply into the enemy area of operation to look for succeeding echelons of enemy forces. Prisoners of war, refugees, and other human sources can also provide information about enemy intentions.

In the division, brigades and battalions normally fight against the enemy first echelon. In defense they fight the first echelon regiments of the first echelon division, and the second echelon regiments of those divisions as they close to join the fight. Therefore, *it is important for brigade and division commanders to know where those second echelon regiments are and what they're doing.* This is so the brigade and division commanders can move battalions to engage second echelon regiments as they enter the fight. During offense, it is necessary for those same commanders to know where second echelon enemy regiments are and how they are disposed to fight. Thus, battalions can be applied to the fight in the best way to destroy the integrity of enemy first echelon division defenses, penetrate into the soft areas between the first and second echelon divisions; and there wreak havoc. In like manner, the division commander must look deep, find second echelon divisions of the first echelon army, and move brigade and battalions to engage targets or to break through.

The division commander has limited surveillance and target acquisition means.

will, therefore, be necessary to take extraordinary measures to insure that the flow of *combat information* is not impeded by the routinism so characteristic of message center operations. The commander should normally charge his chief of staff with the responsibility for defining and implementing these extraordinary measures. But they must be established and the commander must insure that they are. For if they are not, the whole command can be immobilized by the lack of responsiveness often displayed by the message center in its various headquarters.

DIVISION SUPPORT AREA

The DISCOM headquarters, some staff, and other elements locate in the division support area. These may include G1 elements, counterintelligence and interrogation elements from the combat electronic warfare and intelligence battalion, military police and provost marshal elements, and a tactical airlift element from the USAF tactical air control party.

STAFF OPERATIONS

The *staff* assists the commander by providing information, data, counsel, preparing plans and orders as he may direct, and by exercising such supervision over the execution of his orders as he may prescribe. *It is important for staff officers to remember that they are not in the chain of command, that their role is one of only providing assistance to their commander.* It is also important for the commander to remember that staffs have some real and ever-present limitations. Staffs do routine things; an efficient, well organized, and highly motivated staff can do routine things very well. However, as a general rule, long-term goals of the organization (decisionmaking and the development of good initiatives to get something moving) will not just bubble up out of the staff as a matter of course. *The commander identifies goals, decides where his outfit is going, announces those goals and directions, and takes the initiative.* The commander may rely on his staff to some extent for these matters, but he must take the

THE STAFF HELPS THE COMMANDER MAKE DECISIONS BY PROVIDING INFORMATION, DATA, COUNSEL, AND BY EXERCISING SUPERVISION OVER EXECUTION OF HIS ORDERS

initiative himself. For to the extent he does not, to that extent his headquarters will lean towards bureaucratic lethargy, inaction, indecisiveness, unresponsiveness, and thus, ineffectiveness. He may receive good ideas from a small handful of staff or other officers in his organization, but *HE* is the one who must ultimately translate them into action, one way or another.

REPORTS

Critical information of immediate importance to the commander is reported as described earlier in this chapter. Less critical information is provided to the staff through periodic, spot, or summary reports. The commander must specify what information can be reported to the staff through these reports. As a general rule they should receive the following:

- **enemy location, size, and direction of movement;**
- **composition, location, and activity of friendly battalion size maneuver and fire support units;**
- **availability and status of attack helicopter units and close air support;**
- **fuel and ammunition status of battalion task forces in contact, and of their supporting field artillery; and**
- **combat vehicle losses of battalion task forces and their supporting field artillery.**

The commander and staff officers use reports to obtain and distribute information about the command to subordinate, higher, and adjacent headquarters. Only those reports *required to meet essential* needs for information should be required of subordinate commands. Continued review of the content and validity of recurring reports eliminates unnecessary items and duplications.

DISPLAYS

Staff sections should maintain only the minimum number of informational displays required to keep members of their sections and the commander informed of frequently needed, essential information.

The operations element in the tactical command post normally maintains a situation map. The intelligence officer is responsible for insuring that the enemy situation and other appropriate information is correctly posted on this map. The MAIN command post also maintains a situation map that graphically portrays information passed on from the tactical command post and information received directly from other sources. These situational displays must be integrated. *It is not possible to operate if intelligence, operations, logistics, and other staff elements do not contribute to an integrated posting of clearly identified information elements on a central situational display.* A battle information report is an ideal vehicle to focus staff attention on what must be posted on this central display. Staff elements may maintain separate, more detailed displays for the conduct of staff operations, but their primary responsibility is to the commander's need for information and the displays that provide it to him. Journals are normally maintained to record significant events.

Simple displays that show the status of combat units are also useful tools for the commander and staff. Such displays should be designed to reflect the status of major weapon systems and their crews, and the amounts of fuel and ammunition available throughout the division.

The following charts describe typical staff functions at each command post. **FM 101-5, Command and Control of Combat Operations, describes staff operations in detail.**

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FUNCTIONS OF PRINCIPAL STAFF SECTIONS

Section	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
G1 Section	Keeps commander and staff informed on personnel situation and availability of replacement crews. (G1 section performs this function when operating with the tactical command post.) It also informs G1 on status of battle, crew and other vital personnel losses, and of changes in priorities.	Develops personnel appraisals, and coordinates personnel replacement operations between tactical command post, Main, and DSA.	Keeps record of unit strengths, manages personnel, provides health services, and maintains discipline and law and order.
G2 Section	Provides commander with intelligence from intelligence center at Main.	Plans collection effort, manages collection effort, integrates intelligence from all sources, analyzes, produces, and disseminates intelligence, plans and coordinates reconnaissance and surveillance activities, and disseminates weather information.	Coordinates counterintelligence activities and interrogates prisoners of war and civilian detainees.
G3 Section	Coordinates staff operations at tactical command posts, maintains current friendly situation and unit status, supervises preparation of written orders, recommends allocation of forces, and processes immediate close air support requests.	Prepares operation plans, receives, processes, and approves preplanned close air support requests, coordinates tactical troop movements, maintains troop lists, and provides staff supervision for conduct of electronic warfare and psychological operations.	
G4 Section	Keeps commander and staff informed of logistics situation, status of weapon systems, fuel, ammunition, maintenance capabilities, and replacement weapon systems. (G4 section performs this function when operating with the tactical command post.) It also informs G4 status of the battle, weapon systems and other critical employment losses, and of changes in priorities.	Coordinates, as necessary, between forward brigades and division support area elements for logistics support. It also plans for future operations.	Plans for and exercises staff supervision of divisional supply, service, maintenance, medical, and transportation activities. TACP elements responsible for tactical airlift are collocated with G4 elements here.
G5			Coordinates civil/military operations to include civil affairs and psychological aspects of current or proposed operations as they affect the civil populace.

FUNCTIONS OF SPECIALIZED STAFF ELEMENTS

Element	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
Special Security Office		Provides link to special intelligence information from higher, lower, and adjacent intelligence-gathering services.	Interrogates prisoners of war and civilian detainees.
CEWI Battalion Element		Staffs intelligence center, assists G2 by planning and managing collection effort, analyzing combat information and intelligence from all sources, and producing and disseminating intelligence for the division. Conducts terrain analysis, updates maps, and prepares map supplements from photography. Assists G3 in planning and coordinating electronic warfare operations and conducts operations security survey.	
Weather Element			Locates normally at division airfield, and provides weather information to G2.

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FUNCTIONS OF SPECIALIZED STAFF ELEMENTS (CONTINUED)

Element	Tactical Command Post Element	Main Command Post Element	Division Support Area Element
Fire Support Element	Coordinates immediate fire support requests and advises commander and staff on status and capabilities of fire support means.	Prepares fire support plans, coordinates fire support requirements with tactical command post and division air space management element, monitors location of all fire support means, and obtains target analysis and damage assessment for nuclear and chemical weapons.	
USAF Tactical Air Control Party	Coordinates immediate requests and use of close air support.	Plans close air support operations and aerial reconnaissance operations.	Coordinates tactical airlift requirements.
Air Defense Artillery Section	Coordinates, when operating with the tactical command post, air defense in the forward area and airspace management as appropriate.	Operates with division aviation section to form division airspace management element.	
Provost Marshal Section			The functions of discipline, law, and order, populace and resource control, prisoner of war collections, police intelligence operations, special investigative efforts, refugee control and displacement, and other associated police duties are conducted in conjunction with the MP company commander and coordinated with other staff elements from this location.
Communications-Electronic Officer Section		Exercises systems control of the signal battalion. Element located with signal battalion headquarters. Plans and coordinates divisional communications support.	
Aviation Section		Operates with air defense artillery section to form division airspace management element, and coordinates army aviation support.	
Engineer Section		Located with the engineer battalion headquarters. When required, an engineer element is brought into the Main to assist in planning for specific situations.	
Chemical Section		The division chemical officer and two assistants are normally located in the FSE and provide nuclear and chemical weapon target analysis and damage assessment information. The remainder of the section locates at the division artillery headquarters to perform the same functions.	

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